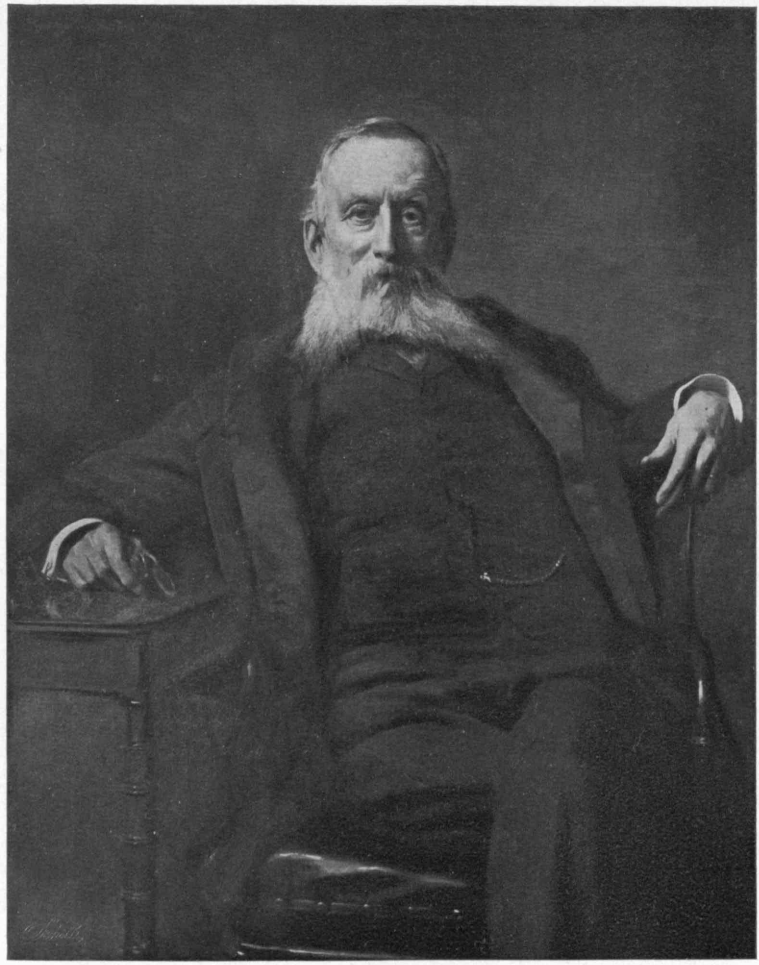

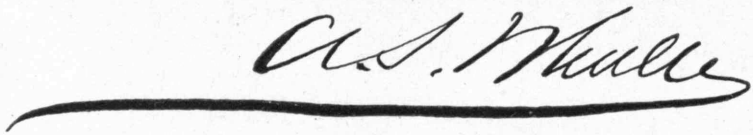

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ALEXANDER STRONG WHEELER

MEMBER OF THE CORPORATION OF THE MASSACHUSETTS INSTITUTE OF TECHNOLOGY, 1882–1907

Alexander Strong Wheeler, whose death on April 13, 1907, deprived the Corporation of the Institute of one of its oldest, most devoted, and most important members, was born at East Sudbury (or, as it is now called, Wayland), Mass., on the 7th of August, 1820. The Wheeler family came from Concord, though his grandfather, Abner Wheeler, lived in Lincoln.

His father, Asa Wheeler, was unfortunate in business, and, when Alexander was three years old, his parents moved to Orford, N.H., the birthplace of his mother, Emily Strong, and the home of his grandfather, Alexander Strong. His father and mother continued to be poor, but Mr. Strong was a prosperous farmer, with the ambitious desire to send one of his grandchildren to college. He wisely chose Alexander for this career, and sent him to school at Meriden, and afterwards at Haverhill, to prepare for Dartmouth. The grandfather died before his plan could be carried out, but a half-brother of Alexander, some ten years his senior, aided him, and he himself was able to earn something by teaching school in the vacations, and thus make his way

through the college from which he graduated in 1840. He had already selected the law as his profession, and after tutoring for a year in a private family in Orange County, Va., entered a law office in Troy, N.Y., declining an offer of a clerkship in one of the departments at Washington. After a year at Troy he attended the Harvard Law School, and, though he could afford to stay but for one term, he always looked upon the training he received there under Story and Greenleaf as invaluable, and regarded them as ideal teachers.

In 1843 he entered the office of Sidney Bartlett as a student, and the day before his admission to the bar Mr. Bartlett, who was already one of the leading lawyers in Boston, offered to take him into partnership. Attractive as this offer was, he declined it without hesitation to carry out an arrangement which he had already made with his classmate, Henry C. Hutchins. This was the turning-point of his career. He was still indebted to his brother for a part of the cost of his education, and the brave and honorable resolution to forego the assured position and income which Mr. Bartlett's proposition gave him, and to start instead with a partner of his own age to make his own way, rather than disappoint a friend, was highly characteristic.

The connection between Mr. Wheeler and Mr. Hutchins was a remarkable one. Born on the same day, the former in East Sudbury, Mass., the latter in Bath, N.H., they met for the first time at school in Haverhill, became friends, were classmates and finally room-mates at Dartmouth, separated temporarily after leaving college, but as soon as possible formed the partnership which lasted during their lives and has been continued by their sons. The close intimacy between them was by no means confined to business.

When they were for any reason separated, their correspondence was frequent and regular. The partnership lasted for fifty years, from Jan. 1, 1844, to the death of Mr. Hutchins, Oct. 28, 1894. During that time there were several periods of years at a time during which one or the other partner was, by reason of illness or accident, unable to do any part of the work, yet no change was ever made in the division of the income.

It may be interesting to recall that after the Boston fire, when almost all the local insurance companies had failed, Mr. Wheeler acted as their counsel, attended to their reorganization, and drafted and presented to the legislature the statute which made this possible. This is not the place, however, to speak at length of Mr. Wheeler's professional career. He was the trusted adviser of a very large number of active business men, and he made use of his legal knowledge, his practical good sense, and the influence over men which was given him, partly by these qualities, but above all by his brave, simple, and kindly nature, to avert quarrels and prevent unnecessary litigation. Mindful of this, his family, when asked to choose one of the beatitudes as the subject for a memorial window which they desired to place in Arlington Street Church, selected "Blessed are the Peacemakers."

Recognizing the value of Mr. Wheeler's business judgment and sound common sense, some of his clients, who were corporations, asked him to act upon their boards of directors, and the Second National Bank and Bigelow Carpet Company greatly appreciated the long and faithful service which he rendered them in this capacity.

He felt it part of the duty of every one to give a portion of his time and strength to public and benevolent work, and was for many years one of the trustees, and also for a time

the president, of the Boston Asylum and Farm School. He was elected into the Corporation of the Institute in 1882, and was placed upon the Committee of the School of Industrial Science, a comparatively large body, to which, in connection with the President, was intrusted the management of the institution. After Mr. Rogers's death he took an active part in remodelling the by-laws and substituting for this large committee the present small Executive Committee. Of this he was one of the original members, and to the time of his resignation, in 1902, he continued to be most active and attentive to its duties. He thus took part in the decision of all the important questions which confronted the Institute during that long period, and gave gladly the benefit of his legal knowledge, large experience, and wise estimate of men and things. His kindly disposition and warm sympathy with the feelings and opinions of others led him to cultivate and encourage the greatest harmony and friendliness in the committee and in the Corporation and between them and the Faculty. He was a fervent and devoted admirer of the Institute and an optimist as to its future, jealous of its reputation and high standards, and willing to go very far in favoring any desirable enlargement, whether in land, buildings, curriculum, or staff, in the confident faith that, if the work were good, the financial support would not be lacking.

Mr. Wheeler was sincerely religious, and never failed to attend church on Sunday when physically able, and in his household he kept up the old fashion of conducting family prayers every morning. He was a member of Arlington Street Church in Boston, and served for some years on its Prudential Committee. He was also trustee of the Massachusetts Bible Society, and a member, and at one time president, of the Unitarian Club.

While never a candidate for any political office, he took a great interest in public questions, and wrote papers on the Tariff, on Socialism, on Banking, Labor, and other subjects of that character, some of which were published in magazines, and some read before the Boston Commercial Club or other organizations.

Such a brief account as I have been able to give presents but a poor picture of Mr. Wheeler's character, which was at once strong, broad, and charming. His sympathies were wide, and his kindness and courtesy to young men was most striking, as the writer has often had occasion to appreciate. Particularly, also, his heart went out to those who had their own way to make, and to this was due much of the love he bore the Institute.

WILLIAM LOWELL PUTNAM.

AMERIKANISCHES HOCHSCHULWESEN

EXTRACTS FROM A PAMPHLET PUBLISHED IN LEIPZIG BY DR. W. BÖETTGER, PRIVATDOZENT AT THE UNIVERSITY

Translated by Chauncy C. Batchelor.

When I received an invitation to spend a year as Research Associate in the Research Laboratory of Physical Chemistry at the Massachusetts Institute of Technology, I was inclined, in the first place, to accept because I had made the acquaintance of a considerable number of the many American students who visit the University of Leipzig (especially the Physical Chemistry Institute), and thus had a good preliminary knowledge. In the second place I was glad of the opportunity to work in the school of one of the best-known chemists of America, and to become acquainted with the methods of instruction in American institutions of the higher learning.

In this essay I have recorded not merely my impressions of the things which appear especially remarkable to new-comers in America, but rather a few observations on which I have based some conceptions formed after mature consideration, in part not until several months after my return home. With this caution, I think, it becomes easier to separate the real from the unreal. The danger of confounding the incidental with the typical, and thus getting a false conception of conditions in America, is greater than might be expected. Soon after the visitor arrives in the new country, owing to the overpowering and contradictory impressions which he receives, he falls into such a mental state that, unconsciously, he is unable to make clear observations. This condition lasts the longer, the more the traveller attempts to see. It soon becomes evident that this hasty method leads to injustice, but nevertheless the observer realizes that he is helpless before the multitude of widely varying phenomena. Not until much later does he become convinced that it is not a hopeless problem, but that, however, he must observe and experiment care-

fully before he can draw any very far-reaching conclusions. If I am not mistaken, many criticisms which I consider unjust, and which I mention in the following pages, are due to just this incomplete clarification of ideas.

The Institutions of Higher Learning

Among the many problems which press for solution in an article concerning a country of such strongly pulsing life, I shall pay special attention to education, and in particular to the institutions of higher learning. The more detailed discussion of this subject seems warranted because of the interest shown in various ways by Germany in the development of college education which has occurred in America during recent years. This attention is doubtless justified; for we need only remember that the public high schools established lately in certain German cities have existed for over sixty-five years in Boston, and the academies of practical medicine founded a few years ago are anticipated by schools in New York. It is certainly not too much to say that America in matters of education, and particularly in those of higher education, is the land of experimentation on a large scale. Familiarity with American college education will be instructive in another respect. We not only may obtain data for the solution of problems which with us are only in the theoretical stage, but, on closer consideration of what we may observe there, we may find underlying principles, the knowledge and consideration of which will be of great value.

It is easily comprehensible that we in this country should have hitherto paid little attention to American college education, for German universities enjoy such world-wide reputation that it would surely be reckless to doubt the soundness of their fundamental principles. Moreover, university education in America has assumed its present significance in perhaps only the last thirty years, although some universities, like Harvard, Yale, Princeton, and Columbia, are considerably older. The whole movement is, then, much younger, and for that reason more practical. We might be tempted to believe that the study of a system

of higher education still in active process of development might be rather purposeless, because it is unfinished. It can only be answered, however, that this makes the study difficult, but not futile. In many important problems Americans have already established their position. It is only the form of expression, then, which changes. Regarding certain other problems there is disagreement, and so various experiments are being tried; but among us many of these problems are left untouched.

It may be stated with certainty concerning their activity in the province of higher education that the Americans, in the short space of a few decades, have obtained very notable and original results. This is not very surprising upon closer examination; for we have only to remember that many young Americans, after ending their studies at home, go abroad to complete and enrich their education. They return in due course, not only with their diploma, but, what is more important, with a broader view of the world, which, doubtless, materially helps their later activity as teachers. Therefore, it is no wonder that the prosperity of the American colleges, and with it the growth of knowledge, has come upon them so swiftly.

American colleges in the East are practically all private institutions. In the Central and Western States, state and private colleges exist side by side. Primarily, the advantages of the state as against the private university seemed to me so obvious that, soon after my arrival in Boston, I asked an American professor whether there was no prospect of the private universities being taken over by the State. The brief answer: "There is no danger of that," surprised me at the time very much. Since then, however, I have become convinced that the system of private universities, at least under existing conditions, is quite practical. If, in the following pages, I confine myself chiefly to the private universities, I do so without any implication that the founding of private universities here is an object worth striving for. Our discussion must be limited to those circumstances which increase the effectiveness of the universities as institutions for the deepening of knowledge and the increase of power, which in our system do not play such an important part. The most important difference between State and private universities

is that the latter receive no subsidy from the State and consequently are more independent. For this reason, however, the president of the university not only must be the intellectual leader, but also has thrust upon him the onerous duty of providing the necessary means for the subsistence of the university. Under conditions with which we are familiar, this would be an impossibility; but in America, where so many people have acquired wealth easily, it is essentially less difficult. Even so it is hard enough, so that the ideas which we get of the wealth of American universities are quite often without foundation. This system, however, unavoidably smacks somewhat of commercialism.

This circumstance may easily appear to us very disadvantageous, and it cannot be denied, perhaps, that the complete, or almost complete, independence, and the resulting material self-reliance, have the immediate effect of placing the private university and its achievements at the mercy of chance circumstances, such as the intellectual and financial activity of the president and the interest of rich people, when the corresponding official aid of the State is lacking. We must not overlook the fact, however, that this method of college organization also offers advantages, especially since the same man who is responsible for the competent instruction and who, with the help of other officers, governs the economic interests of the college, remains in closest connection with the college, with its vital interests and with its sphere of influence. As a result, more attention is paid to local state interests than in a system of economic centralization. The organization of the American university favors differentiation, but this differentiation can normally apply only to those details which affect the existence and influence of the institution. As soon as differentiation is carried to such a point that one college falls below another in achievement, then attendance decreases, and its existence is imperilled. Since the consequences of this failure to obtain definite results do not make themselves felt quickly, we may perceive in this another advantage,—that of greater mobility and easier adaptability, which, to be sure, involves sometimes a great disadvantage, that of instability.

The necessity for financial self-support requires that capital should

be laid out only on those things which are strictly necessary for carrying out the purpose of the institution. The lecture and office buildings are constructed in a simple style, the older ones are without decoration. There are exceptions, of course; but in the general interior finishing of most colleges this principle of economy is shown. The auditoriums are quite frequently imperfectly provided with apparatus for lecture demonstrations. On the other hand, the furnishing of the laboratories with apparatus for practical instruction is usually complete. As a further result of financial independence, the students must, as explained more fully below, pay an essentially higher tuition fee, in order to bring up the general income.

Of those details concerning the students which are unfamiliar to us, we may note that the schedule of studies is more or less strictly prescribed, and that the student's activity is regularly controlled. This is partly because the relation of the college (the preliminary step to the university proper) to the school is different from that with which we are familiar. The pupil in the American intermediate school does not cover so much ground as has the graduate of the German *Gymnasium*, *Realgymnasium*, or *Oberrealschule*.

Preparation for Higher Study

The regular course of preparation for college consists of a certain number of years spent in the Primary, Grammar, and High Schools. The normal length of time spent in the High School is about four years, but capable students can fulfil the requirements in about three. The average age for graduation from High School is about eighteen years. In general, entrance to any school, and especially to the colleges, is secured not so much by the possession of a certificate showing successful study in some class or in the whole school as by success in passing an examination. It is accordingly not by any means necessary for every boy who offers himself as a candidate for admission to show that he has gone through all these schools. In the requirements for admission to the Massachusetts Institute of Technology it is stated that the candidate must pass the examinations which are held in the Institute or else those of the College

Entrance Examination Board. In regard to the schools it is merely mentioned that the best High Schools are adapted to the preparation of students for the examinations in that Institute.

In these public schools the tuition is free. On the other hand, the tuition fees in the colleges and universities are high. There exists, therefore, a tendency to give the greatest possible number of children, especially those who are least able to make their living, the opportunity to prepare for study at college. Here we find a characteristic departure from what we are accustomed to, which accounts for many essential differences between the two views of life: namely, that the separation of the scholars according to their intended callings begins later in America. The future merchants, land-owners, and members of the learned professions sit together in the High Schools.

Under these circumstances, in order to allow for individual preferences of the scholars without increasing the time allotted to each school day or the school term as a whole, there is a certain limited freedom in the choice of studies. The preparation for study in the university in America does not cover so much ground as here, although the course in the schools (primary, grammar, and high) normally takes about twelve years. The explanation is easily found. The demands made upon the young generation are, with a view to the stronger development of the body in these years, slighter than here. Among the college students, who therefore are in a more advanced state of physical development, the opposite condition is true.

Student Freedom

The preparation for entrance to college which the boy has received in the secondary schools corresponds somewhat to that for entrance to the first class of our higher secondary schools. The preparation for special study does not begin until he enters college. Accordingly, the American student is more restricted during his first years in college. A change is already beginning, however. In the later years at college the student is allowed greater freedom in the regulation of his studies. This circumstance is quite typical;

for, whereas in Germany the work in the later years is not very strenuous for a scholar of average ability,—I myself have not gone through the regular course,—so that those weaker in will and more gifted may easily adopt a habit of *dolce far niente*, in America the young man at his entrance to college, at an age when impulse to high activity is roused, finds in the raising of the requirements a wished-for opportunity to test and further develop his capability.

The student, accordingly, does not attain so suddenly as here the freedom of an elective system, and he is preserved from mistakes which entail heavy consequences. Perhaps the argument may be advanced that our system is preferable because those who do not make the right use of the freedom granted them, sooner or later drop out, so that finally only those arrive at their goal who appreciate the privileges and duties of student freedom. This reasoning is, to be sure, logical, but it is one-sided. It suggests that the student already possesses the very thing for which he is about to strive. In America, as well as here, educators are working toward that same end,—free election,—but with smaller loss incurred because of the more gradual transition.

A further and more important argument against the American system is that the growing man is deprived of an important opportunity for strengthening his sense of responsibility. It would require too much space to describe how this end of education is attained. In the following pages the story partly tells itself. Therefore, I will limit myself to quoting a statement made by Charles W. Eliot, a recognized leader of American college education, and the veteran, successful president of Harvard College, in his book, "Educational Reform" (p. 125):—

> A university which teaches arts and sciences should assure her students of three things:—
>
> 1. Freedom in the choice of studies.
>
> 2. Opportunity to win academic distinction in single courses or in special departments.
>
> 3. An education which teaches each student that he is responsible for his habits and for his conduct of life.

To avoid misunderstanding, let it be clearly understood that the essential difference is not that the American student is more restricted in what he may or may not do, but that he gradually comes to this freedom which the German student has enjoyed from the day of his matriculation.

In connection with this problem let us consider another principle which decidedly distinguishes American methods of instruction from ours. In America the educator believes that the purpose of college education is to raise the quality of achievement of the average man, whereas in Germany the emphasis is notably laid on the task of bringing the best men to their highest development. It seems to me that this is the essential difference between the two systems. The German point of view is characterized by the sentence from Fichte's Rector's Address:—

> We should consider one industrious and adaptable student of more value than hundreds of lazy and incapable men, and if the two kinds may not be handled side by side, let us let the hundred go in order to save the one.

In America, where in most respects, to be sure, no great value is set upon a man's life, the universities are so planned that the powers of men of only moderate ability may be as far as possible developed. The educator starts with the idea that those less gifted by Nature have greater need of an education than those talented ones who make their way by their own strength, if they be given a fair opportunity.

This system has several not inconsiderable dangers. For example, the standards of requirement may be lowered, and thus make possible an invasion of the learned professions by the less worthy. By the following statements, however, we may perceive that great care is taken to guard against this by dropping from the colleges those who show that they cannot fulfil the requirements. Besides, this danger is well recognized, as is shown by the following statement of Charles W. Eliot:—

> The ideals of an educational institution should never be determined by the capacity of the less capable students. A university should, under all circumstances, offer what the best students need, and adapt itself to the

capacity of the poorer ones only so far as is consistent with the first requirement.

The Entrance and Term Examinations

Of those aids to instruction in which the American colleges differ from ours, examinations are of first importance. The American student, as has been mentioned above, secures entrance to college by an examination in which he has to give account of his preparation. This provision, which, moreover, formerly existed in this country, is modified somewhat by the fact that the secondary schools in which the boys receive their preparation show great differences in requirements and actual results. There is now on foot a movement to simplify these entrance examinations by allowing the students of designated High Schools of good reputation to enter without examination any one of the association of colleges. A strong watch is kept on the students of these schools, however, and this privilege is taken away as soon as they show any signs of slackening their efforts.

The examinations are held, in writing, at the end of the school year, June and September. If the student takes the examination in June, he does not have to journey to the college for which he is to be examined, for the examinations may be taken in any state, in several places, under the direction of the College Entrance Examination Board. The proctoring at these examinations is very strict, so that there is no possibility of students presenting work not their own.

The task of satisfying the requirements of these examinations is made easier for the student by the fact that he may divide them among several terms. Moreover, a candidate is accepted provisionally, if he does not pass satisfactorily in all subjects, provided that he takes a condition examination at some time during the first year.

These data, to be sure, do not give us sufficient basis for forming a clear judgment, since we are not told how many questions must be correctly answered. We must recognize, however, that the work of instruction in the American universities is carried on with thoroughness. This fact will be especially surprising to many, since,

in view of the financial independence of the colleges, which obliges them to keep in attendance a sufficient number of students, we should expect that the admission requirements would not be rigidly exacted. Not only is this not the case, but also during the entire course effort is made to throw out, or at least to hold back, those students who do not fulfil expectations. This is brought about through examinations at the end of every term, or, at least, at the end of every year.

The question of the advisability of examinations has roused so much discussion that it would require much space to cite here merely the most important arguments which have been offered. On that subject the reader is referred to the interesting book of F. Paulsen, "The German Universities and University Study" (Berlin, 1902), p. 426, and following. I will limit myself here to remarking that in America experiment has proved in every case that these examinations not only are not purposeless, but that through them good results are obtained. We must add, indeed, that such examinations can be no test of the ability of individual students, but doubtless they show whether the students do the required minimum of work at least, and provide protection against the farther advance of those who do not come up to the minimum standard of scholarship. Here, evidently, the principle mentioned above is applied, that education is chiefly for the benefit of those naturally less gifted. This does not in the least mean that special attention is not paid to those who distinguish themselves by stricter application: that is not the case. As soon as a student, by examination or other test, proves his worth, this is immediately recognized, and every aid is given to advance him, in order to win him for the service of the university, or at least for intellectual work. This is done by granting him, when necessary, a scholarship during his college course or by making it possible for him to attend another university, especially abroad.

The point of view of the young students in regard to examinations may be of interest here. I have the impression that they are regarded as a welcome opportunity for the student to distinguish himself. Without doubt, however, during the period just before examination a great deal of "cramming" is done, and some students, it is reported,

resort to drugs, in order to endure the great fatigue they undergo at this time. I doubt, however, whether this can be regarded as the rule. One incontestable advantage in these examinations is in weeding out the less industrious. However hard it may be for the individual when he is shown by failure in the examinations that he has deceived himself in the choice of his profession or in the estimate of his capability, nevertheless the timely realization of this fact is, in the long run, of greater advantage than the later realization of it at the final examinations of the college course or perhaps so late as the beginning of practical life. That in America there are fewer of the "discontented and disenchanted" to be found in the learned professions is surely not only a result of the universal optimism caused by uncritical overestimation of ability, on which so often people in that country depend, but is also brought about, at least in part, by the more abundant opportunities for the individual to find out whether he is in his right element in the profession which he has chosen.

Let us discuss one point briefly. From theoretical considerations it might seem that this strict regulation of studies might lead the stronger element among the students, because of their individuality, to pursue their studies less zealously, and thus hinder their development. In that case the possible gain would be counterbalanced. To this it may be answered that the really capable students can fulfil the requirements without great preparation, and to these men is given every opportunity to develop their natural gifts. Besides, every young American knows that the "unpleasant pressure" lasts only for the short period of four to five years, and that it is felt only a few weeks in the year, provided that the student uses the rest of the time to any purpose at all. A lasting compulsion and, if possible, an improving effect would be exercised in this way really only upon those who during their course do not themselves gain enough insight to see that regular exercise and development of the intellect are essential parts of study, or upon those who have not the strength of will needed to make them practise this principle. This class of students is doubtless better cared for in America than here.

As a defence of this view, I should like to quote here a statement of Professor Münsterberg. He writes in his book, "The Americans" (vol. ii. p. 86):—

> Germany is most extremely economical of time and strength during the school years, but most spendthrift of both in the university; here and there to the gain of a strong personality, but always to the harm of the average man. America wastes much time during the school years, but is economical during university study, and accustoms the individual to solid work.

Organization of Instruction

On one other question, also, the advantages of the lecture system, which has been repeatedly discussed in Germany, different views are expressed in America. My contribution to this discussion is based upon personal intercourse with college students, and upon the transactions of the American Chemical Society at their thirty-first meeting in Philadelphia (28th to 31st December, 1904) on the subject of laboratory instruction in organic chemistry.

If it is desired to study this question more closely here in Germany, too, a knowledge of American conditions may be of value, because there the system has been tested in a practical manner. The American system aims at limiting the number of lectures which a student hears in a semester, supplementing them by oral recitations, and establishing the closest connection between them and the laboratory exercises. To bring this out more plainly, I have obtained from the catalogue of the Massachusetts Institute of Technology more detailed information concerning the system of instruction for students in chemistry. Such an examination shows that the total number of hours per week is notably small. If we reckon the work hours per week at fifteen, on the half-day basis, and at thirty-four hours, on the whole-day basis, it follows that the total laboratory work corresponds to a seven semester course on the half-day basis or a three semester course on a whole-day basis, for the average laboratory work for eight semesters amounts to thirteen and one-half hours per week. This is in sharp contrast to the customary amount here. The student regularly in the second, and not

infrequently in the first, semester begins with laboratory work of fifteen hours (half-day) and at times even with thirty-four hours.

Since it is conceivably of interest to know also what personal characteristics are especially cultivated by this instruction, I will mention the emphasis laid upon the importance of doing careful work, making thorough observations, carrying the thought to its logical conclusion, and careful revision of reports. In order to guarantee this result, the instruction and oversight during the work is more intensive than is commonly the case here.

This decided diminishing of the practical hours of laboratory work, however much justified it may be at the beginning, may, especially for the advanced students, bring certain disadvantages. If too little opportunity and encouragement are given the student to study a phenomenon according to his own judgment, he will rather content himself with doing only the thing that occurs to him at the moment. On the other side, one disadvantage is avoided which is not infrequently met here in Germany in laboratory instruction,—mechanical work without any question as to the impelling causes for a phenomenon. This is found even in quite capable and industrious but physically less favored students, who in the attempt to get the full advantage of the course, make greater demands on their strength than it can stand. The consequence is that they work on in a condition of weakness to a farther point, indeed, but with less understanding, and consequently with less success, than if they had worked for a shorter time, but with more deliberation.

The deeper study of these conditions would be instructive in still another respect. Laboratory instruction in American colleges involves the antithesis to the ideas developed by Sir William Ramsay some time ago. This successful investigator believes in bringing together the young and old students in mixed classes, in order to give the young beginners the opportunity for broadening their knowledge by observation of their neighbor's work and through conference with older associates. By the American system the students are, for the most part, separated according to semesters, and the possibilities of mutual and, so to speak, gratuitous instruction is lost. This departure from Ramsay's conception, to be sure, has good

reasons. The realization of Ramsay's idea is naturally more expensive; and it can be profitable only where a due number of conspicuously capable students are available. The American institution corresponds to the requirements here,— that a great number of students (often several hundred) must receive instruction at a very limited cost.

The total number of lectures is not smaller in the same proportion as the time devoted to the laboratory. It comprises, for all courses in chemistry during the eight semesters, thirty hours per week. This would be equivalent to six five-hour lectures, but it must be noticed that far fewer lectures occur in a single semester than is customary here, and especially that courses of more than three hours per week are not given. In this way, overburdening and the loss of interest connected with it are avoided.

Besides the lectures and laboratory exercises, oral recitation hours are quite universal in America. They form, as it were, a supplement to the lectures, and establish a medium between the lectures and the laboratory exercises. President Eliot* expresses his opinion on the object of these exercises in the following characteristic and clear manner:—

> Recitations degenerate to dry repetition, and lectures alone mean often a useless waste of effort. The lecturer pumps industriously into a sieve: the water may be very good, but it runs through. The brain must work itself if it is to grow.

In these oral exercises such problems are treated as would require too much time to explain to each student singly in conference. The number of those taking part is generally less than twenty and seldom more than thirty.

According to Paulsen such exercises were held in Germany also (in the eighteenth century), and he mentions as causes for the disappearance of this system the increase in number of students, the wandering of a part of them from one university to another, and the consequent difficulty of personal relations between teacher and student, and finally the dislike of the students for school discipline.

* Speech on accepting the presidency of Harvard University.

On the other hand, it may be said that the increase in number of students is no unconquerable obstacle. In America the education of the masses is carried on in this way. Moreover, the lack of personal relations, which is here caused by the migration from one university to another, is found over there, also, being brought about to a great extent by the fact that the exercises for one course in a single semester are conducted by different instructors. And, finally, as regards the disinclination for school discipline, we may answer that that may be justified only in those cases where the teacher is not skilful enough to avoid dogmatism. I have tried to become better acquainted with this method of instruction by visiting classes, and I must confess that I have often been surprised at the skill with which many teachers interested the students and induced them to talk and to ask questions.

One other arrangement which might easily be termed scholastic, however, I noticed in some lectures. Many teachers interrupted their lecture at designated points, and gave their audience opportunity for asking questions. The system has many advantages. The lecturer has his attention called to any defects in his presentation, which indeed—especially in the case of young teachers—are unavoidable, and the hearers take a more active part in the exercise, because they know that the occasional obscurities must not be allowed to pass unheeded. The objection may be made that too much time may be lost, since in a large audience too many questions might be asked. This must be determined by experience. In two lectures which I regularly attended, I have observed that in an audience of forty to fifty very little time was lost for the purposes of the lecture, to say nothing of the gain accruing to both parties from it. The questions put, too, were very reasonable, and of such a sort as to make clearer the especially obscure points. Of course it must not be forgotten that lecturers in American colleges have before them, except in the first few semesters, a more homogeneous audience, as far as preparation goes. This circumstance decidedly contributes to the success of this plan. Furthermore, it favors the limiting of the number of lectures, for by the fact that the lectures are brought into close connection with each other (remembering that one

set of lectures may be attended by a student only when he has passed the course regarded as preparatory or when it has been shown that the prescribed knowledge has been obtained in some other way) the lecturer is in a position to make good progress without stopping to explain elementary principles.

Miscellaneous

The outward aspects of life at American colleges deserve brief notice. The care of the body and physical health, which receive much attention, find noisy expression in the contests between the students of neighboring or friendly universities. These contests, as is well known, are carried on with so much energy that every year a considerable number of the contestants lose their lives or are more or less crippled. It may be less well known, however, that lately a movement is gaining strength which does not encourage one-sided cultivation of muscle, but an all-round development of the body through appropriate exercises, especially for such as are less favored from birth. Some words from an article of Professor A. A. Noyes, entitled "The Aims of Technological Education,"* express this feeling: "Regular physical exercise may not be regarded as an affair of subordinate importance for the attaining of success in education, but rather as a necessary preparation." And, after stating that the Institute should bring about reform in this respect, he recommends "not only that those few who already possess unusual strength should be encouraged to take regular exercise, but that preparations should be made to induce a habit of moderate training in those who from birth, have a difficult position in the struggle for existence, and who consequently are, up to that time, the least of all inclined to cultivate the strength and health of their bodies."

Another aspect of student life concerns the arrangements, found at practically all American colleges, to avoid unnecessary and fatiguing journeys during the mid-day recess. At Boston the Institute of Technology provides a lunch-room in which good and cheap foods,

* Technology Review, 1905.

both warm and cold, are served expeditiously between the hours of twelve and three. This is of great convenience, not only to the students, but to the professors, assistants, and the women employed in the Institute offices. I mention this to show that the physical well-being of the students and teachers of the college is considered. The situation of the lunch-room is so favorably chosen that in the mid-day recess of one hour there is time to take a short walk after lunch. In this way also a sharp distinction is made between study hours and rest hours, since on account of the shorter recess at noon the work in the afternoon begins earlier and generally ends earlier than here.

It is easy to see that in a university so widely spread out as that of Leipzig, with its complicated organism, such an arrangement cannot well be made. Indeed, even in the city itself that would be unnecessary, and the attempt to bring about such a thing would surely be vigorously opposed by the restaurants. Perhaps the inconveniences which arise from the great distance of the newest "Latin Quarter" from the centre of the city might be lessened in some similar manner. At the same time another often regretted evil might be removed,—the lack of opportunity for exchange of ideas between the younger members of the instructing staff. How easily then could questions which concern other departments be answered without need of calling a conference of the courses!

Of all the impressions concerning the young students which I received, the most distinct is that of their strong loyalty to their college. This feeling of belonging to it, too, does not die out on the day on which the graduating student bids farewell to the college, after the diploma is handed to him in the solemn assembly of the Faculty and friends. The majority of the alumni attend the reunions, and the individual student keeps up during his whole life a more or less active interest in the place where he received an important part of his education,—his intellectual development. This interest is expressed in many ways. Sometimes the rich graduate of a college bequeaths a part of his wealth. This explains how the old universities, like Harvard which, naturally, has such a large number of alumni, receive so many legacies. That, however,

does not discourage many other men from seeking to advance the cause of intellectual education in this same manner. There are, for example, whole universities, such as Johns Hopkins in Baltimore, modelled on the principle of the German university, founded by the bequest of one man.

Aside from this, however, the reunions of the alumni may also have a most decided influence on decisions which are of the greatest importance in settling the position of the college. A case of this kind occurred during my stay in Boston, when the question of the union of the Institute and Harvard University arose. This question was debated in the most earnest manner in a large assembly of the Institute alumni, and it would not be incorrect to say that the final miscarriage of the plan, which had many partisans for and against it, might be ascribed, at least in part, to the outspoken dissent of the alumni.

Concerning the life, customs, and aspects of the undergraduates, naturally a great deal more might be said, but I prefer to confine myself to what I have said and what may be implied from this article, for by the mere mention of institutions and circumstances which are different from those to which we are accustomed I might add to the incorrect representation of American conditions if at the same time I did not explain how characteristic they were and give the observations on which they were based. For such a complete investigation of such questions I lack the necessary data.

Economic Questions

In addition to several remarks previously made concerning economic conditions at American colleges it may be interesting to have further information. As has already been mentioned, the tuition fees paid by the students are essentially higher than here. At Harvard University they amount to $150, and at the Institute of Technology to $250. They vary over the country from $100 to $250 for the college year, which at most colleges, as also here, comprises two terms. The cost of tuition at the state universities is considerably lower. At these either no fees are charged, as at the

Universities of Illinois, Wisconsin, and California, or they amount to no more than $10 to $50, as in Michigan, or $25 to $100, as in Minnesota. The necessity of charging high rates for the tuition arises simply from the fact that the private universities must have some regular source of income to meet the running expenses, since their property and bequests do not grant an income large enough to meet expenses. Therefore, it becomes necessary to call on the students and their parents, and this appears justifiable when we consider that it is chiefly the more prosperous who send their children to college, regardless of the question whether it has been founded by special endowment or not.

This objection is easily answered, however. First of all, there exist at every college numerous funds which are used to help those needy students who, during the school year, have shown themselves to be worthy. I am told, for instance, that at the Massachusetts Institute of Technology ten per cent. of the students receive a half or whole scholarship. At Harvard University (1904–05) out of 5,143 students, from which number 1,007 should be subtracted for the summer school, 403 (that is, ten per cent.) were assisted by scholarships. Among the latter are 58 for the more advanced students, which run from $200 to $1,000. If circumstances require it, the scholarship aid is continued for two or three years in case the successful work of the candidate seems to make it advisable.

Furthermore, absolutely destitute students are aided in getting an education in other ways. In America students think differently about working for their education at unskilled labor. The student who pays his expenses by serving as waiter in the mid-day recess or during the long summer holidays, which last from the beginning of June till the end of September, is not looked at askance, but is generally regarded with especial respect. And when the opportunity to do such work is quite great, and the pay is comparatively high, it is not impossible for a student to "work his way through college." It is naturally quite different when the student is not merely working for himself, but has young brothers and sisters or aged parents to support.

The American system is, therefore, not so unfair as it seems at first sight. The burden of cost falls on those who can endure it, and those who are not in that position have only to show that they are especially gifted or especially strong in will in order to overcome the first most considerable difficulties. They can definitely depend upon it that by the American system of instruction and examination this will be made possible, so that a lack of means forms a strong impulse to greater activity without causing lasting uneasiness about the future and consequently the hindering of the capacity for work.

In closest relation to this question is that of the pay of the university teacher. I will give some figures here to support my statements. The salaries at American colleges amount to about the following sums:—

For a Student Assistant (not graduated) . .	0 to $250	4th Year.
" Assistant, First Year	0 to 500	5th "
" Assistant, Second Year	0 to 600	6th "
" Instructor	$800 to 1,135	6–8th "
" Assistant Professor	1,125 to 2,000	10th "
" Associate Professor	2,000 to 3,000	
" Full Professor	3,000 to 4,000	
" Heads of Departments	3,500 to 5,000	

In order to show how many years must pass before these salaries are actually obtained, I have given in the last column the number of years normally required. For the higher positions it is naturally out of the question to make any estimate.

From these figures it may be seen that the salaries for the younger members of the instructing staff are materially higher than here, where the average pay of an assistant, even after several years' service, comes to perhaps $300, or even less at times. Nor is it to be supposed that the difference is made good in greater value of money. Another very noteworthy fact in the American system is that in the first few years the income increases quite rapidly. It is the rule, at least in Boston, that an assistant in the second year of his service receives an increase, if he performs his duties satisfactorily. And, if he is not promoted to the rank of instructor after

one or two years, it indicates that he does not fulfil expectations, and must count on seeing a younger colleague, who may offer better service in instruction, preferred to him.

The comparatively high compensations are conditioned by various circumstances. The salaries paid by the business and manufacturing houses which the young students might enter at the end of their course are considerably higher, especially for the more active and capable. The natural consequence is that the colleges must so calculate the compensation that, whenever possible, they may keep the most capable for the work of instruction, especially for the scientific work. But aside from this it is abhorrent to the American mind to pay a man for his services a sum of money on which he cannot live without additional outside sources of income. This consideration then brings it about that, in general, no great influence can be ascribed to the personal interest in his profession which the research worker or teacher feels as an impulse to high activity. This explains what by many thinkers is regarded as an obvious defect of the American system, that in American colleges is wholly lacking one part of the instructing staff found in every German university,—the German tutor, who, as a rule, gives only so much instruction as is compatible with the advancement of his own education.

With the question of pay is also connected the efficiency of the teacher. The idea is prevalent there that the younger teachers are far too much in evidence in the work of teaching and are more in demand than the younger members of the instructing staff in German universities, so that their further development is considerably endangered. This view evidently originates with the young Americans who, possibly exaggerating the strictness of the prescribed course which instructors give, look with more favor on the few self-chosen lectures which the German tutor delivers.

It is generally forgotten that the tutor and the assistant have different functions, and that the German tutor, in case he is at the same time an assistant, has in reality to devote himself much more to the instruction in the laboratory than the American instructor. At least this is the case when he conscientiously fulfils the duties of the assistant's position, and does not—in order to devote himself

to scientific work, on which his advancement depends—turn it over to younger apprentices. Of course, one can generalize too dogmatically. For the chemist, however, according to all that I have heard here and there personally or from reliable sources, this statement applies, with few exceptions. The American instructor certainly has a greater number of fixed hours of recitation, but he is paid for them so well that with a proper limitation of these recitation hours he can devote the remaining time to research work. In Germany the assistant, unless, by chance, profitable lectures are turned over to him as a tutor, must undertake, besides the services in the laboratory (which are in respect to hours, etc., less regulated) some avocation, literary or otherwise, in order to keep his head above water. Only what little time may be left over from this may be devoted to research work. For the tutor of small means, then, the progress of his development, which is of the greatest importance for his future profession, is seriously hindered.

The pay for the higher positions also seems at first sight to be high. It is to be noticed, however, that the professor receives no greater salary from the college than the German professor, who receives a part or the whole of the fees for lectures. But, even if the average pay in America is better, it must be remembered that the work is, as a general rule, more monotonous, because it is more often devoted to instruction than to research work.

Mr. Hart, who studied law in the sixties in Göttingen, in a book published in 1874, entitled "German Universities," draws a comparison between a professor in Leipzig with 500 thalers' pay and an American assistant professor with an income of $1,000 (whose salaries then stand in a ratio of 1 to 2.6):—

> The Leipzig professor has an essential advantage over his American colleague. His duties are not pressing, and they lie wholly in the line of his own study. He does not need to give twelve, fifteen, or twenty hours of instruction per week, and his time is not required for inspection and oversight of the work. His work consists in the delivery of a four to five hour lecture.

This, to be sure, cannot be taken too literally now, for conditions

have changed since then, and have become far more favorable for the American college instructor. From what experience I have had, I should judge that the professors in German universities who have charge of an "institute," or department, commonly have more demands on their time than professors in a similar position in America. Not only do the latter have control of a larger staff of sufficiently well-paid assistants on whom they can disburden themselves, but there is a tendency to-day, at least in the large colleges, toward division of labor according to inclination and fitness for teaching, especially investigation. Besides, Mr. Hart studied law, and so his conclusions do not much concern conditions existing in the scientific branches. I emphasize this here especially, because in the frequently quoted book of Professor Paulsen many conclusions are based upon statements of Hart's without any mention of that fact, which naturally weakens the force of the reasoning.

If we consider these conditions, we must, above all, not forget that educators in America know the situation thoroughly and try zealously to remove the defects. This will be best illustrated, I think, by quotation from the very significant speech of President Roosevelt in June, 1905, on Commencement Day at Harvard University.* He says in this speech, which I was able to attend, the following:—

> A university like ours has two different functions. The first is to produce a limited number of men who, endowed with the highest gifts, are in the highest sense productive in science, literature, and art. The second duty is to send into the world a great number of men who cannot perform any such functions as the first, and who should never try to do so, but whose work in the world will be valuable in many ways. These men should leave the university with an even development of body, of mind, and, above all, of character. This would fit them to fulfil a notable and important duty.

And after some remarks about the special institutions for the realizing of this purpose, which Harvard University already possesses, he said further:—

* From the Boston *Evening Transcript*, June 28, 1905.

This worthy ambition cannot be realized by one means alone, but there is one which will, in the greatest degree, contribute to the realization of it,— we must create some splendid positions and bestow them on those scholars who have attained the highest standing in their special branches. Every position of that sort ought especially to be honored, in order to show to the outside world of what importance they are.

In order that no one may give too materialistic an interpretation to these statements, the following passage is also quoted:—

Naturally, the mind of a man is incomparably more important than any reward coming from outside. The consciousness of having done such a work forms for the man who has performed it the most beautiful and richest reward. We, who stand outside, should help, as much as we can, to make the completion of this work easy. Nevertheless, what we can do is only slight in comparison with what he himself has to do. The mind of the scholar is the impelling energy for the productive work of the country.

This speech, it must also be remembered, was not an exhortation or an invitation to make contributions, but was delivered on the occasion of the presentation of the large sum of $2,400,000 to the university. In regard to the spending of this money, merely the wish was expressed that the intellectual force of Harvard University, and through it the country, might be increased by the improvement of the standing of the instructing staff. This act expresses well the spirit of sacrifice of the Harvard alumni, for a large part of that sum was contributed by old Harvard men.

Conclusions

Not all of the interesting facts have been told about America by any means; but the writing of the rest must be put off still longer unless I were willing to limit myself to hearsay. I consider it not out of place, however, to touch upon some other points, which may be important in estimating the value of the above deductions.

The first question is whether what I have said concerning the Massachusetts Institute of Technology and Harvard University will apply universally. Both institutions are highly respected, not only in America, but in other countries. Of Harvard Uni-

versity this is sufficiently known; but the younger institution, founded in 1865, in which young men are prepared for practical professions, also is frequently visited by foreigners.

In respect to general educational tendencies, I believe that I would have come to similar conclusions if I had lived at another college. I have arrived at my conclusions partly through reading essays of American educators, and not merely by reason of what I have myself seen. That must not be understood to mean that the various colleges are all the same. The whole constitution of the American colleges and the short period of their existence have brought about to-day conspicuous differences. The characteristics noted above are by no means realized in the same manner at all colleges.

Although it follows from the above that the practical value of my acquaintance with American systems is somewhat limited, as it is somewhat lacking in the necessary vouchers for its accuracy, nevertheless I may be permitted a remark concerning those institutions which appear to me to have a certain superiority over ours. This seems to me the more reasonable, since they have frequently been regarded as obsolete, useless, or impracticable.

First in importance are the yearly or term examinations. The experience gained in American colleges on this subject is, in my opinion, of the greatest importance for the future regulation of this matter. Of the practicability of the examinations there can be no doubt, and their usefulness is universally acknowledged there. We should be glad of the opportunity, if we knew how, to weed out at the right time from the great mass of students the slothful, and especially those who, with the best will in the world, cannot fulfil the minimum requirement. Several very intelligent college professors, who have studied in Germany and have taken a doctor's degree, have assured me that they considered it a great lack in our system that we do not have these examinations. If I have discussed such an institution so specifically, in spite of the disapproval at present existing in regard to it, on the supposition that the knowledge of the experiments which are being made in other places might occasion in time a change of the views held at present here, still

I do not by any means admit that the system, as a whole, is worthy of imitation. Especially do I believe that the examinations are adapted only to the preliminary years, until, that is to say, the student has given proof to himself, his guardians, and his instructors, that he is warranted in continuing his study further.

I wish, above all, to avoid the impression that, because I have made certain statements concerning schedules of studies, I am advocating the strict regulation of study. I wish to show merely how the time is divided among the various courses and with what preparation the young graduate enters his professional life. It cannot be denied that the strict regulation of studies at present prevalent in America has certain advantages: for instance, in preventing the young and inexperienced student absorbed in professional study from, in his lack of wisdom, neglecting other courses,—a neglect that occurs quite frequently, as I know from intercourse with young associates. Let us obtain these advantages through other means, especially through the effective plan of schedules of studies in which the lectures and exercises which should have a special interest for the student of a particular course are grouped together.

The great contrasts which are found in the United States are responsible for the strongly contradictory criticisms of American conditions which appear in print. The impression which a visitor to America receives depends upon the quarter of the city in which he walks, on whether he busies himself with the problems of money-making, commerce, corruption, or education, and on whether he pursues his way as a pleasure tourist with full purse and under the protection of the authorities, with influential letters of recommendation, or whether he breaks his way for himself through the difficulties. Above all, it depends on how he observes and with what degree of freedom from prejudice he regards what he sees. Among the expressions which I have heard in this respect, that of the Englishman Muirhead particularly pleased me, and occasionally surprised me also. Muirhead says (from Münsterberg, vol. ii. p. 231):—

There is something choice and delicate in the finest bloom of American

culture,—something which can hardly be found in Europe. The intellect which grows up there in a surrounding free from artificial standards and conventional distinctions gains a single-natured, unprejudiced, untrammelled, purely human view of life. It regards life calmly and as a whole. This is exactly what we fail to do in England. The true American is simply incapable of understanding the difference between a lord and a plebeian, which by the mere pressure of social conditions is forced upon every one of us. To him it is like a fourth dimension in space: one may speak of it, but it has no immediate reality. The English radical philosopher may work up to a height from which he may say, "I have won my freedom with great sacrifice," but the American may retort correctly, "I was born in a state of freedom."

And Münsterberg continues,—

But what Muirhead says of the finest blooms applies, if we look more closely, to the entire flora; for the most part not so delicate and choice (as in the best types), often suffused with raw colors, but a little of that color has been given to every growth on American soil which is not downright weed.

Although we may not be willing to accept, without qualification, Muirhead's somewhat enthusiastic idea, and especially the comparison of the English philosopher and the true American in regard to the freedom (frankly not identical) to which they have attained by such different ways, at any rate, it modifies Münsterberg's criticism concerning the whole flora. There are certain places where the spirit of cultivation pictured by Muirhead prevails. For instance, I have never visited the Boston Public Library without similar sensations. But there are also dull growths which we may not inconsiderately call weeds. Many Americans who are familiar with Germany have said, without any prompting from me, that the lower strata of the American population are not actuated by interests so worthy as in Germany.

I think that this emendation of this altogether too favorable criticism of Münsterberg's will be accepted, inasmuch as otherwise there would be a tendency to attribute the lack of legal regulation of the care of the sick and the aged, and similar duties, to a general absence of the feeling of social obligation on the part of those whose

duty it is to solve such problems. That would be too hasty, at least. It has its origin in the idea that one does not wish to curtail the right of free choice. Society makes a man responsible for his safety and existence, and pays him more highly for his work. However one-sided and consequently unjustifiable this point of view may be, it cannot be denied that it produces good results so far as concerns the individual, who becomes more independent through consciousness of his responsibility, and acquires in higher degree a wholesome feeling toward real life.

For the rest, I will not omit expressly to point out that, according to what I hear, a surprising amount is done privately to ameliorate the hard fate of those who are early worn out in this battle for existence, which destroys courage, mind, and body. It would be worth while to study the institutions of this sort more closely. We might count with certainty on finding, among the institutions which inventive and practical American men and women have created or perfected, some which could be transplanted here to the great advantage of those for whom they were designed.

Exchange of Professors

I cannot resist the opportunity to take up the much-discussed subject of exchange of professors, because I think I can offer some points of view which in many quarters do not seem to be sufficiently taken into consideration. When it became known that the realization of this undertaking was at hand, it was discussed eagerly and greeted joyfully by some, and more or less disapproved of by others. Upon the American side the joy over the recognizing of the young worker by the country of older culture prevailed, and only the occasional but sometimes quite influential man criticised the undertaking adversely. Through their statements the idea spread abroad that a nation is as independent and no more to be influenced in the development and cultivation of the intellectual capabilities of the individual man than the individual man is in respect to his character. On the German side the plan was greeted in authoritative circles with more distrust. In the first articles

published the opinion was expressed that it was not complimentary to the German universities and the members of their instructing staffs to have the American universities placed beside them as equals.

Of those men who have addressed the public in this vein, I offer the opinion of one man * who has estimated the importance of American universities according to impressions which he has received in daily work during a year's intercourse with the undergraduates as a teacher of German in American universities. This writer especially emphasises the fact that the graduates of the American universities in general possess a culture more scholastic than intellectual, a knowledge more superficial than deep, and that the ambition of the American universities is chiefly practical. In many respects I agree with the writer, but by no means in all. Especially I should not like to defend the view that the prime object of American universities should be characterized in this manner. I believe that my views concerning the difference between the purpose of the American and German educator have already been established above. And from this point of view I am convinced that the exchange of professors will have important results, not in the sense of fulfilling "weak and overstrained hopes of an international union," but to communicate to one nation the principles and experience of the other in matters of education. The result is that the men who decide the fate of a nation in respect to the development and cultivation of methods of education become acquainted with the differences in the underlying conceptions and results. Since, as has just been shown, the leading principles depart pretty far from each other, inasmuch as educators in Germany at the university give their aid chiefly to the development of the best scholars, whereas in America emphasis is laid upon the raising of the general middle class, it is only right to expect that the consideration of the experiments which are being made in America may be of the greatest importance.

It must be admitted that the mutual sharing of experiences may

* Walther Kuchler, "Ueber Amerikanische Universitätsbildung. Eindrucke und Erwagungen." (Beilage zur Münchener Allgem. Zeitung, Nr. 172 (1905), s. 185–189.)

take place in other ways than official ones: for example, through German teachers who work in America and, on the other hand, through American students who study in Germany. But since at present the information concerning American conditions is chiefly obtained through philologists (teachers of the German language), who naturally are not in a position to judge with the eye of an expert the conduct of the scientific courses, which in the last decade in America have been perfected to a remarkable degree, we must expect most certainly that the visit to America of older men belonging to the most widely separated branches will be of great influence upon the development of instruction in German universities. These men will be aided in their criticism by their authoritative position, which will procure for their views a readier hearing than is accorded to younger men who have taken up the task unofficially.

We must not set our hopes too high, of course, and refuse to realize that not all imperfections of an educational system can be corrected as soon as this or that experiment is tried. Many devices and arrangements will be borrowed from there, especially in laboratory instruction. If we may not rate these things very highly, yet at least we should not undervalue them. Let us consider, for instance, the ease with which in America literary treasures are made accessible to the public. It seems to me unjust to believe, as the above-mentioned writer plainly does, that in this way superficiality of knowledge is favored at the cost of depth. That may be true in some cases, but it does not, as a rule, apply. Superficiality of knowledge is found there more frequently not, in my opinion, because it is easier to make up for lack of knowledge by private study in the library, but because the accessibility of the libraries is not in itself sufficient to prevent the evils due to other circumstances.

Although, as might be supposed from the above, I expect much profit to arise from the visit of the German professors to America, nevertheless I cannot agree with the views of Professor Münsterberg on this subject. This scholar states on page 122 of Volume II. of his much-mentioned book, after he has spoken of the results

to education which may arise from the fact that the sons of rich Americans may devote themselves to it:—

> Germany knows little of all this: people live in the traditions of twenty years ago, and do not notice how quickly conditions change. American books go unnoticed, American reviews go in ridiculously small numbers across the ocean, Americans are constantly complaining that even in the great Berlin library many of the most important American works and magazines are wanting; and, "if they do these things in the green tree, how shall it be done in the dry?" That such things cannot happen without serious harm to German knowledge is evident.

With respect to the American students who go to Germany, he says

> that they make use of the freedom of the German lecture-room for the most part because they cannot obtain admission to the leading American colleges. The better part, however, who, having had a good preparation, exchange their American college for a German one for a few semesters, do not go to-day as they did thirty years ago with the feeling that Germany is the schoolmaster of the world, and that they will find there something of a different quality from the home instruction. They go there to widen their horizon as cultivated men or in order to take special studies with some expert; they seek a gain which the German would also if he spent one year in the graduate school of Harvard or Columbia, Chicago or Johns Hopkins.

And, toward the end of this chapter on education, he finally utters this warning:—

> Once more let it be said that, if the German prejudices are not soon corrected, their surprise over the American success in the province of the intellectual will be still greater than that over their economic growth.

The narrowness of this view is so apparent that I will refrain from any discussion of it. In one point, however, I agree with the writer with complete conviction, although from other motives; namely, in the warning that we also, the younger generation, should go abroad and study American conditions with our own eyes. Whoever does that will not only gain the profit that comes from close contact with a people distinguished by inexhaustible energy and

natural intelligence, and holding fast with undeviating confidence to the broad-minded national ideals of the best of their ancestors, and yet possessing in the choice of ways and means the most surprising flexibility. He will also gain through looking at the country where he was born from a somewhat greater distance. He will see many things which have no moral right to exist, and which totter along with difficulty, supported on the weak arm of Old Custom. He will also learn, for the first time, to know and to value correctly the worth and strength of his native country's institutions, and will realize what is imperishable in them. And there will awake in him the hearty wish to help in the discarding of the outworn, and to devote his strength to the service of his fatherland.

JUNIOR WEEK

SPRING CONCERT AND DANCE

The combined Glee, Banjo, and Mandolin Clubs gave their annual spring concert and dance at the New Century Building on the evening of April 24. The matrons were Mrs. Harrison W. Haywood, Mrs. Frank H. Rand, and Mrs. Peter Schwamb. Over three hundred persons enjoyed an excellent program, more than two-thirds of this number attending the dance.

TECH SHOW

"William, Willie, and Bill," the ninth annual Tech Show, was performed at the Colonial Theatre, Boston, on the afternoons of April 26 and 27, at the Malden Auditorium on the evening of April 27, and at the Providence Opera House on the evening of April 28. The performances were noteworthy for the crowded houses, the best which Tech Show has ever experienced.

The Boston performances were marked by the presence of a large number of Wellesley girls in the second balcony.

A new Tech cheer song, "Dear Old M. I. T.," was produced, and immediately won its way into the hearts of all Tech men. The songs and dances throughout the performances were excellent, and set a high standard for other shows to follow. The play did not have much of a plot, just enough to hold the songs together.

The following criticism by Professor Seaver, of the Department of English, is so excellent and suggestive that the REVIEW ventures to reprint it from *The Tech*, where it first appeared:—

It is probably required of any critic who has seen Tech shows through a number of years that he compare with previous performances that of the current year, fresh and pleasant as it still is in his mind, without any timid concern for possible odiousness in his comparison. Fortunately, the

standard of the show is now fixed so high that each year's piece is good, and such comparison usually indicates difference rather than superiority or inferiority.

The merit of the show this year is mainly, I think, an unusual evenness of excellence,—an attainment to be credited rather to the management and to the undistinguished sincerity in the work of each performer than to exceptional gifts in a few prominent players. The music is of sustained interest, without numbers separately as catchy or brilliant as some of previous years. Similarly, the singing of Ellis, Jenkins, and Orchard is less conspicuously superior to other solos or to the choruses than were the solo parts of other shows. No previous show that I have seen was so sure in the memorizing of parts and the adjustment of the action, so that the two acts passed without song or dialogue broken, without mishap or collision in any dance, and without hitch or lapse of enthusiasm and control. Technical detail so small as the clapping accompaniment to the "Cattle King" song or the sounding of the tambourines in the tambourine dance was noticeable for precision, a sufficiently modest virtue, but attainable among large numbers only by work and capable training. The single adverse criticism that occurs to me is that too many words were lost by hurried delivery in the dialogue and obscure enunciation in the songs.

Of acting in the sense of impersonation of character, nothing was demanded by the libretto. In the way of caricature and personal "stunts," the honors seem to me pretty surely to belong to Coffin's serenade and dance, the coon song for which was, I think, the most original and best musical composition, and to Kibbey's whole performance of "Goldstein," especially the dance, which, alone among the individual numbers, seemed to me to equal the best work of any previous show, and which was indeed a most effective combination, kept within the limit of extravagance, of agility, ingenuity, and absurdity. This detail suggests again comment on the general excellence of the piece, that it was free from any of the excessive and, consequently, merely grotesque "stunts" that have marred some previous shows.

I have left for the end consideration of the libretto, because recent experiments in the librettos have been so interesting. I still believe that no Tech show has yet availed itself of the possibilities of comic effect in the plot. Any attempt completely to convert the show into a regular play would be fatally objectionable, because it would exclude all the possibilities of chorus and figure dancing, and would demand too much time and aptitude from a few performers, and so destroy the main virtue of the show, that demo-

cratic inclusiveness which means a good time for the whole student body, fairly secure from complication with Faculty votes. The loss resulting from omission of chorus dancing has been evident in the last two shows, which have contained no effects of rhythmic movement and beautiful grouping and coloring of costume comparable with the chorus costume dances of four or five years ago. But, without any sacrifice of these effective features, it should be possible to make the plot contribute to the fun, and so become more than a thread, tangled and ravelled and even broken, on which to string the separate numbers. In the present show, individuals *do* very clever and amusing things, but nothing amusing *happens*. An omission I personally miss much is a more definite love story and love scenes, for nothing can be so diverting as a fellow's impersonation of femininity. Coquetry combined with the astounding and abysmal voices that accompany female costume in a Tech show, coquetry reliant on such charm of person as that of the black-gowned beauties of this show, those with the bare shoulders of the Farnese Hercules, is ludicrous in a way and to a degree unapproached by the professional comic stage. Further, there are, I think, opportunities quite unrealized by Tech shows of making the plot itself have satirical local appropriateness, by bringing the scene nearer home and connecting the episodes more immediately with Tech life.

A last objection is probably quite as much a compliment. The audience would enjoy more "local hits." Some have demurred lest the fun become unintelligible to all outside Tech, but the audience is all Tech, and there is no necessity of appeal to a public outside that personal one which enjoys in the shows most of all the flavor of personal pleasantry. H. L. S.

"TECHNIQUE 1908"

Technique rush on Thursday noon, April 25, was one of the fiercest ever known. The editors had only one hundred books ready for distribution, and three hundred men went into the rush to get them. E. R. Smith, '08, secured the first book.

Technique '08, more than maintains the standard set by previous books. The volume is larger, with more reading matter, although some information which has appeared in previous editions as a matter of course, has been cut out. The art work and grinds are far above those of previous years, and the class histories, notably those of 1908 and 1909, unique.

JUNIOR PROM

The annual Junior Prom was given at the Hotel Somerset on Thursday evening, April 25. The committee planned and handled the dance in remarkably fine fashion, there being present nearly two hundred and fifty couples,—a number larger than in previous years.

W. Fred Dolke, Jr., '08.

SENIOR WEEK

Senior Week, 1907, will undoubtedly go down into the history of the Institute as a lively and most pleasant week. Beginning with the annual Senior Class Dinner at the American House on Thursday evening, May 30, the graduating class celebrated its entrance into the world's work, and was welcomed into the Alumni Association. The program for the week was: Thursday, May 30, Senior Class Dinner, American House; Friday, May 31, Alumni Reception to Seniors, Engineering Buildings; Saturday, June 1, Musical Clubs, Concert to the Seniors; Sunday, June 2, Baccalaureate Sermon, Trinity Church; Monday, June 3, Class Day Exercises and Senior Dance; Tuesday, June 4, Graduation Exercises, Class Reunions, and Tech Night at the Pops.

SENIOR DINNER

The Senior Dinner on Thursday evening, May 30, at the American House, was a successful beginning of Senior Week. It had been expected that the graduation announcements would be distributed before the dinner began, but the Faculty meeting did not conclude until after 10 P.M., so that it was 11.30 P.M. before Professor Merrill and Mr. Humphreys arrived.

The dinner went off smoothly to the accompaniment of much singing and shouting. The suppressed nervousness and the anxiety of the candidates for graduation naturally found vent in a good-natured, pleasant rough-house.

Everett Morss, '85, president of the Alumni Association, James P. Munroe, '82, and Bursar Rand were the speakers, making a strong appeal to the graduates to hold together as a class and to help the secretary, A. Macomber, to keep in touch with the men. Advice was plentifully supplied by the speakers, and received with much applause. After the regular features of the dinner were concluded, the meeting broke up, the men wandering around the hotel waiting for the arrival of the graduation announcements.

More or less of a good-natured rough-house was kept up until Professor Merrill and Mr. Humphreys arrived. When the men had finally passed in front of the Secretary, and had received their announcements, bedlam of the worst kind broke out. All of the men went to pieces, and the noise and clamor were deafening. After each man had shaken hands with each of the others, and had pounded every one else on the back, all the time yelling at the top of his voice, the whole class rushed into the street, formed a column of fours, and marched up to Rogers Steps for the last cheering and singing.

ALUMNI RECEPTION

Following closely the standard of a good time set by the Senior Dinner the evening before, the alumni reception to the graduating class on Friday evening was greatly enjoyed by the large number present. The Senior stunt was sprung as the first event of the evening. Under the command of Captain H. S. Wonson, '07, two companies of soldiers, dressed in uniforms that varied from the "dinky" dress of Freshman days to gunny-sacks, went through a short travesty on a battalion drill. The music was furnished by a makeshift band that made noise, but little harmony.

James P. Munroe, '82, represented both the class of 1882, which was celebrating its twenty-fifth anniversary, and also the Corporation in his talk to the Seniors. A. L. Plimpton, '77, Giles Taintor, '87, and A. W. Jackson, '97, represented their classes in bestowing advice and gifts upon the graduates. While the refreshments were being served, Coffin, '07, and Kibbey, '09, entertained those present with their selections from this year's Tech Show, "William, Willie, and Bill," and G. R. Norton, '07, gave several well-rendered selections on the cornet.

MUSICAL CLUBS CONCERT

On Saturday evening the combined Glee, Banjo, and Mandolin Clubs gave a concert in Huntington Hall to a large and appreciative audience of Seniors and their friends. The clubs gave an excellent program and did the best work of the year. The program consisted

practically of the same numbers that were presented at the Spring Concert, but was given with a much better vim and feeling that captured the audience. The soloists were Thompson, '09, with his 'cello, A. Killion, in a vocal selection, and Fales, '07, and L. J. Killion, '05, in a banjo duet.

BACCALAUREATE SERMON

The Rev. Dr. Elwood Worcester, of the Emmanuel Church, preached the baccalaureate sermon on Sunday afternoon in Trinity Church, speaking in part as follows:—

One of the most striking signs of our times is the labor it imposes on youth. Certainly, the most significant spiritual fact in the past fifty years of our history is the development of that vast, graduated, complex system of education whose sole purpose is to train the minds and characters of the young. For this end no sacrifice is too great, no legitimate undertaking too costly. For this end our government, which ordinarily takes a somewhat parsimonious view of its duties to individuals, pours out its treasures like water. To this sacred cause come the princely gifts of individuals. The necessity of education is the one appeal that is never made in vain.

The years of pupilage have lengthened, and the tasks devolving upon early life have grown heavier. We see signs of this everywhere, in the tendency of all good colleges to raise their standards of admission, to lengthen their courses, and to shorten their vacations. In short, the tendency of the times, not only in our land, but in all civilized lands, is to lengthen the period of youth and to fill those years with hard labor.

The chance to lead a distinguished life only by virtue of good manners, wit, and the traditions of a good family, has practically disappeared, and, in place of these charming accomplishments, useful knowledge and capacity for hard work are the avenues to distinction.

I have read with interest the charge made by some of our most successful business men that the people of this country are over-educated. They say, Educate the poor, and the poverty of which before they were hardly conscious becomes an oppressive burden. It is all true. The simple are undoubtedly the happiest. To find real felicity, we must descend to the animal kingdom, and there the happiest animal is the oyster safely ensconced between his two shells. As for the man, he is never so blessed or so innocently employed as when he is sound asleep.

Without making any reflection on this college or any other college, you will find the great world in which men and women live is a more moral place than the little world of college. There are two reasons why college morality falls below the morality of the remainder of the world at the present time. First, college life makes few demands upon our moral nature. It is too exclusively intellectual, too selfish. When you have learned the meaning of unselfish love, when you spend your days working for others, when, instead of being adorned like the lilies of the field, you are agreeably surprised to find yourself with a new suit of clothes once or twice a year, you will begin to know what virtue is.

The second reason is that Christian morality, the only morality worth talking about in our part of the world, is not received well by the institutions of learning. To tell the truth, the college professor has never known exactly what to make of Christianity, for the reason that Christianity is a religion of life, not a system of ideas which the professor can take to pieces and put together again.

There is one illusion that is dangerous. It is that life is long. On the contrary, it is very short, therefore make haste. What thou dost, do quickly.

In closing, I would say to you: "Be honorable, believe that life is good, and love your country."

CLASS DAY

Inclement weather not only cut down the attendance at the Class Day exercises on Monday afternoon, but also forced the graduates to hold their spread indoors. The officers and speakers were John H. Leavell, first marshal; Donald G. Robbins, historian and statistician; Earle F. Whitney, class prophet; John M. Frank, presentation orator; and Hudson B. Hastings, orator. The statistics were presented in the form of a thesis, entitled "An Investigation and Determination of the Actions and Reactions of the Class of 1907 and Certain Other Reagents." The class prophecy was presented as the log of the pirate ship "1907," the entries all being made in regular sailor language. President Lawrence Allen, '07, presented the class gift, 150 copies of the new edition of the Tech Songs, to the Union. In the evening the Seniors held the annual senior dance at Copley Hall.

GRADUATION EXERCISES

With the same simple impressiveness that has marked the graduation exercises at Technology in the past, the commencement exercises were held in Huntington Hall Tuesday afternoon. For the first time in the history of the Institute the degree of Doctor of Philosophy was conferred, three men getting this degree as the result of their work in the research laboratory of the Institute. After the reading of abstracts of theses, President Pritchett addressed the graduates as follows:—

You who are here as candidates for graduation to-day are the survivors of a much larger number who entered four years ago, and you have now come to the last official act in which the Institute deals with you as students. From this hour you are graduates, and have begun that life which is not separate from the college life, but a continuation of it in the larger world.

In conferring upon you the degrees which are to follow, I can do no more than to commend to you the underlying principles of the Institute with which you have been familiar during your four years of study. Energy, devotion, readiness to work hard and efficiently, service to your fellow-men, these are the things which you have heard in the school life, and these are the fundamental qualities which you are to cultivate in the larger life.

I hope that you may carry with you a high sense of obligation to the college which sends you out. The Institute of Technology has just come to that period in its history when it must look more and more to its graduates for support, for encouragement, for guidance. Its governing board has come to be composed in a large measure of graduates, and each student who goes out should realize with increasing distinctness the fact that the Institute looks to him in the future as one of its sustainers.

We are celebrating this year in America the three hundredth anniversary of the establishment of the first English colony at Jamestown. The occasion has served to freshen our memories of the perils and difficulties of those early days, and it has served, furthermore, to emphasize those qualities of courage and patience and endurance which made it possible for the little colony to live through those first ten years of life on Jamestown Island.

Amongst all those who wrought in laying what has proved to be the foundations of a great nation, there was no figure more heroic than that of the simple, earnest, resourceful soldier, John Smith, and I have thought that on this day, when we celebrate the anniversary of this settlement, I can

do no better than to leave with you one of the sentiments which Smith himself wrote as expressing his own idea of what was worth doing in the world.

"What truly suits with honor and honesty," writes he," as the discovering things unknown, erecting towns, peopling countries, informing the ignorant, reforming things unjust, teaching virtue and gain to our native mother country." I venture to commend these words of a simple and noble soul to you who go out to-day to serve our native mother country, you who are to discover things unknown, who are to erect towns, who are to help in the informing of the ignorant, and who will, I hope, bear a full part in reforming things unjust.

The problem of the world to-day is not materially different from that of three hundred years ago. Great progress has been made in all that has to do with our ideals of citizenship and of service, but the same old evils have to be dealt with, and, to meet them, we need men of the same manly virtue as were called for in the days of 1607.

Let me add just one other word. A deal has been said of late years concerning the conceit of college graduates, and able editors have found it a fruitful source of humor since the day when Horace Greeley alluded to them as "horned cattle." Unfortunately, it is only too true that conceit is common to a large part of the human race: it sometimes exists even among practical business men themselves. A young man who has the right stuff in him usually gets over this sort of thing, whether he is a college graduate or not.

There is just this much of truth in the statement that many men get the idea that a college education will enable a young man to start in a business or in an organization higher than the man who has not. This is not true. The college graduate starts at the bottom just as the man starts who has not a college education; but, if the college man's education does not enable him to out-distance his competitor, then there is something the matter, either with the education he has received or with himself, or with both.

Your Alma Mater counts that those of you who leave her house to-day are to do your full part in the discovering of things unknown, in the erecting of towns, and in the reforming of things unjust. She looks to you to furnish not only service, but leadership; but she reminds you, on this day of parting, that leadership comes only through service, that he who will learn to direct others must first learn to discipline himself, that he who will administer the affairs of a corporation, or a state, or of a nation, must first administer well the business of his own life.

The rewards of high administrative place will, in the long run, fall to him who adds to honesty, intelligence, and energy loyalty and self-discipline. The road to leadership, whether it lies in one field or another, whether in the constructive work of discovery, of erecting towns, of peopling continents, or whether in the critical work of reforming things unjust, is to be found through service and self-discipline. He who will command must first learn to serve.

He then, on behalf of the Corporation, presented diplomas of graduation as follows:—

DOCTORS OF PHILOSOPHY

Raymond Haskell, Robert Browning Sosman, Morris Archer Stewart.

MASTERS OF SCIENCE

Albert Alden Blodgett, George Holbrook Buckingham, Edmund Schureman Campbell, Colby Dill, Charles Willis Fisher, Jr., Edward Chambers Hamner, Jr., Fitch Harrison Haskell, Ralph Templeton Cushman Jackson, Emory Scott Land, James Reed, Jr., Holden Chester Richardson, John Henry Walsh, John Williams Woodruff, John Timothy Wrinkle, Isaac Irving Yates.

BACHELORS OF SCIENCE

Civil Engineering.—Charles Everett Allen, Lawrence Allen, James Perrie Alvey, Jr., Henry Bissell Alvord, James Madison Barker, Charles Willett Beam, Attilo Horace Cenedella, Howard Root Chase, Raymond Francis Conron, Everett Russell Cowen, George Arthur Crane, Allen Reginald Cullimore, Thomas Francis Dorsey, Harold Phillips Farrington, James Ernest Garratt, George Appleton Griffin, Harry Rutledge Hall, Hudson Bridge Hastings, Clarence Decatur Howe, John Frederick Johnston, Jr., John Kimball, Edward Guild Lee, Harold Clifton Libby, Henry Delano Loring, Benjamin Franklin Mills, Fred William Morrill, Emory Chase Noyes, William Watters Pagon, Willis Ranney, Thomas Walton Roby, Jr., Ray Elmer Shedd, Phelps Nash Swett, Edmund Abiel Thornton, Frank Ryland van der Stucken, Willis Gersham Waldo, Elbert Carson Wilson, Arthur Melvin Winslow.

Mechanical Engineering.—Anthony Brown Arnold, John Mullin Baker, Edgar Maurice Berliner, William Walter Bigelow, Clarence Allen Bowen, Leverett Howell Cutten, Clayton Rhay Denmark, Victor Heyle Dickson, Parker Van Patten Dodge, Charles Albert Eton, Ernest Cleveland Evans, Otis Gerry Fales, John Hibbard Fellows, Louis Arthur Freedman, Jesse Warren Hanford, Arthur Rowney Jealous, Edward Francis Kelly, Robert Eugene Keyes, Rudolf Heinrick Kudlick, Antoine Gilbert Labbé, Joseph Thomas Lawton, Jr., Milton Turnley Lightner, Byron Peaks Luce, William Sylvester Lucy, John Theodore Mahar, Anthony Paul Mathesius, Nathan Atherton Middleton, Addison Miller, Stuart Read Miller, Kenneth Moller, John Seymour Nicholl, Bryant Nichols, George Roswell Norton, Charles Warren Nutter, Allen Pope, Marcellus Rambo, John Ralph Randall, Everett Rich, Edwin Cole Richardson, Franklin Ripley, Jr., Donald Goodrich Robbins, Selden Emmett Rockwell, De Witt Clinton Ruff, Gilbert Small, Edwin Bertrand Snow, Jr., Edmund Hincks Squire, Herbert Arthur Terrell, Robert Ellis Thayer, John Joseph Thomas, Paul Baron Webber, Laurence Wetmore, Harold Street Wilkinson.

Mining Engineering and Metallurgy.—John Gerald Barry, John Patten Chadwick, Joseph Samuel Coupal, John Allen Davis, Lawrence Ritchie Davis, Albert Henry Donnewald, Harold Stephen Duncan, Shepard Gilbert Emilio, Harry Allen Frame, Henry Bartlett Hallowell, Warren Hastings, Charles Morton Hutchins, Frederick Constant Jaccard, John Charles Kinnear, John Holland Leavell, Howard Jeremiah Coombs MacDonald, John Milton McMillin, Eugene Phelps, Vernon Stone Rood, Roswell Eustis Sampson, Albert Edward Wiggin, Roland Howard Willcomb.

Architecture.—Franklin Oliver Adams, Jr., Cecil Franklin Baker, Edwin Witthaus Bonta, William Balch Coffin, Paul Lander Cummings, Maude Frances Darling, Frederick Greiman Dempwolf, John Tiernan Fallon, Warren Austin Gates, Edward William Hamill, Ernest Farnum Lewis, Samuel Abraham Marx, James Gates Moore, Floyd A. Naramore, William Graves Perry, Earl Howell Reed, Jr., Winsor Soule, Oscar Henry Starkweather, Herbert Arthur Sullwold, Samuel Rogers Taylor Very, Ephram Stanley Wires.

Chemistry.—Albert Lewis Burwell, Roger David Gale, Walter Brayton Gonder, John Hanger Link, Herman William Mahr, Frederick Taft Moses, Donald Edwin Russ, Frank Brown Shields, William Samuel Wilson, Richard George Woodbridge, Jr.

Electrical Engineering.—Arthur Howard Abbott, Rutherford Bingham, Lester Wellington Brock, Emory Leon Chaffee, James A. Correll, Ralph Haskell Crosby, Carroll Sisson Dean, John Evans, John Mayer Frank, Roy Fellows Gale, James Mason Gaylord, Phil Prescott Greenwood, Ralph Groton Hudson, Thomas Callender Keeling, Philip Francis Kennedy, Ralph Frank Knight, Howard Hazen McChesney, Alexander Macomber, Albert Preston Mansfield, John Ernest Moore, Prescott Raymonds Nichols, Hugh Girard Pastosiza, Maurice Henry Pease, Leonard Pomeroy Russell, Tracy Smith, Frank Clifford Stockwell, John Ewart Tresnon, Everett Esten Turkington, Claude Vernon Turner, Arthur Kellam Tylee, Erle Francis Whitney, Joseph Damon Whittemore.

Physics.—John Clement Bradley, Albert Edwards Greene, Frank Sanderson MacGregor, Milton Emery MacGregor, Merton Wilfred Sage.

Chemical Engineering.—William Henry Bradshaw, Charles Ridgaway Bragdon, Harry Newton Burhams, Kirk Worrell Dyer, Martin Herbert Eisenhart, Cornelius Simmons Fleming, Jr., Harold Avery Kinsbury, Roy Wallace Lindsay, Harry Lawrence Moody, Emerson Heard Packard, Octavus Libbey Peabody, Herbert Gay Spear, Sidney Deeds Wells, William Lysander Woodward.

Sanitary Engineering.—Grandville Reynard Jones, Carroll Fitch Story, Leslie Clifford Whittemore,

Geology.—Mildred Eleanor Blodgett, Marden Warner Haywood.

Naval Architecture.—Frederick Bachmann, Walter Bicknell Cain, Charles Matthew Curl, Seymour Joseph Egan, Arthur Harold Jansson, Dan Austin Loomis, Winslow Davis Robinson, Benjamin Karl Sharp, Raymond Ware, Harold Sayward Wonson.

TECH NIGHT AT THE POPS

The tenth annual Tech Night at the Pop was more boisterous than any former one, the Freshmen and Sophomores just escaping

a sharp class fight in their scramble for some '02 handbills. Otherwise the celebration was the usual "grand and glorious wind-up" of the college year. The undergraduates rushed the professors up and down the aisle, while the older graduates had a competition to see which banner could be raised the highest, '97 seemingly winning out.

W. Fred Dolke, Jr., '08.

TESTS ON THE S.S. "GOVERNOR COBB"

The S.S. "Governor Cobb" was built for the Eastern Steamship Company to run from Boston to St. John, N.B., touching at Portland, Eastport, and Quebec. The length is 300 feet, the beam 51 feet, and the draught 14 feet; the displacement is about 3,500 tons; and with 4,500 horse-power the speed is about $17\frac{1}{4}$ knots per hour. There is a very large passenger accommodation, and freight is carried in the hold and on the main deck.

The design was by the W. and A. Fletcher Company of Hoboken, N.J., who furnished the propelling machinery. The hull was built by the Delaware River Iron Ship-building and Engineering Works, Chester, Pa. The ship is propelled by turbines of the Parsons type, and is the first of that class to be put into service in America.

Through the kindness of Mr. Calvin Austin, president of the Eastern Steamship Company, arrangements were made to have a complete test of the propelling machinery by the Department of Naval Architecture. The details of the arrangement were made under the authority of Mr. Hanscom, assistant to the president. The work was done at the Atlantic Works, under the supervision of Mr. Monteagle. Instructions were given the engineer staff to give the Institute every facility in carrying out the work of preparing for and making the tests; and these instructions were fulfilled most cordially by Mr. Richards and his assistants.

The plan for the tests was prepared and carried out by Professor Leland with the assistance of Mr. Everett. Commander C. B. Bryan, U.S.N., from the Bureau of Steam Engineering, accompanied the party during the tests. Messrs. W. D. Robinson, H. S. Wonson, and D. A. Loomis from the graduating class completed the party. The first two took the observations in the engine-room as the basis of their graduation thesis, and the last took the observation in the boiler-room for the same purpose.

In the boiler-room are six single-ended Scotch boilers, working under about 150 pounds' pressure with forced draft, which require

no special description. But the engine-room presented an entirely different appearance from that of the customary triple expansion engine. Lying low down near the ship's bottom are three drums or cylinders lagged and covered with Russia iron, about 4 and 6 feet in external diameter and 15 feet long. These are the turbines. To these lead certain steam-pipes, and connections are made with the condensers. From them three slender shafts are carried aft and through the skin of the ship at the stern, and carry the three high-speed screw-propellers. When the top half of one of the casings of a turbine is lifted, there are revealed rows upon rows of little brass blades, most of them no bigger than the blade of a penknife. Even after one has familiarized himself with the theory of the steam turbine, it is difficult for the mind to correlate one of those insignificant blades with the propulsion of a great ship. But there are thousands upon thousands of them, each doings its share and making up in speed what it lacks in size.

Of the three drums, the centre one is the high-pressure turbine, which takes steam from the boiler and expands it down to 20 pounds. The steam then passes to the two outer low-pressure turbines, where it is expanded to a vacuum of 28 inches of mercury and delivered to the two surface condensers. At the after ends of the low-pressure turbines are two small backing turbines enclosed in the same casing. In manœuvring, steam may be supplied directly to either of the wing turbines to drive ahead or to back. When the ship is under way, the manœuvring valves are shut, and steam is turned on, under full pressure, to the high-pressure turbine only.

Since there is manifestly no way comparable to indicating an engine, of determining the power developed by the steam, it becomes necessary to determine the power delivered by the turbine to the propeller shafts. Fortunately, the torque on the propeller shafts is uniform, and may be determined by measuring the angle of torsion of those shafts. This is no new problem, for in making tests on repeated stresses in revolving shafts in the Engineering Laboratories of the Institute it has long been customary to measure the torque in the shafts by electrical methods. Two methods have been devised and successfully applied by students in the Department of

Naval Architecture for measuring the fluctuating torque in the shaft of a triple-expansion engine, and are reported in their graduation theses. One of these methods depended on photography, and the other on electrical perforation of paper on the engine shaft. Both had the inconvenience that the value of the results could not be determined during the test.

The most practical instrument for measuring torque in the shaft of a steam turbine appears to be the Denny-Johnson torsion meter developed at the Leven Shipyard, Dumbarton, Scotland. Under favorable conditions it can be made to give all the accuracy necessary or possible in practice, and appears to be distinctly superior in this respect to the steam-engine indicator. And, what is of even more advantage, the readings of the instrument, multiplied by a predetermined factor and by the revolutions per minute, give at once the horse-power developed. The essential feature of the instrument is a pair of sharp-edged bar-magnets that excite electric action as the shaft revolves. One magnet is placed in a wheel near the forward end of the shaft, and the other in another wheel as far aft as convenient. Fixed to the framing of the ship near each wheel is an inductor in which is a series of flat coils of wire arranged in radial planes. When the shaft is at rest, the magnets and inductors are set so that each magnet is at the zero mark on its inductor. When the ship is under way, the shaft is twisted so that, when the forward magnet is at its zero mark, the after magnet is in the plane of a coil at a definite angle from the zero of the inductor. By a proper lead of wires in a cable, electric connection can be made between the coils opposite which the two magnets may be at any instant, and, as the winding is such as to produce currents in opposite directions, the currents can be made to neutralize each other when the instrument is in proper adjustment. A switch-box allows the observer to find by trial the coils that give the proper neutralization, which can be detected by listening in a telephone receiver. When the instrument is so set as to give imperfect concordance, there is a ticking in the receiver which decreases as the switch is shifted from coil to coil till, when the proper setting is found, it nearly, if not entirely, disappears. The coils are set one-

fiftieth of an inch apart in an inductor, and, since the concordance can be found either at one plug or the next of the switch-box, or half-way between, hundredths of an inch of displacement along the arc of the inductor can be estimated. The range of the inductor is an inch and a quarter, and on the "Governor Cobb" a torsion of about three-quarters of an inch was obtained, so that the instrumental error was not quite two per cent. By a double switch system, with coarse and fine readings, it has been found possible to get the proper electrical connections with a cable of sixteen wires. There are other details for convenience in setting and reading the instrument which would be tedious if recited here.

The only instruments of this make in the country at the present time are those ordered by the Navy Department for the scout cruisers "Chester" and "Salem," building at the Bath Iron Works and at the Fore River Company's yard. Through the courtesy of Admiral C. E. Rae, U.S.N., engineer-in-chief, the Institute was able to borrow the set ordered for the "Chester" on the condition that we should first set up the instrument in our laboratory and calibrate it. This was done, and Commander Bryan brought a group of young naval officers, under special instruction in steam-engineering, to observe the action of the instrument.

Through the generosity of two friends of the Institute it has been possible to place an order for a set of the Denny-Johnson torsion-meter for the Department of Naval Architecture, and we have assurance that we shall be able to give students in that department practical experience in the use of the instrument at sea.

This feature of the test has been dwelt upon because it is novel. The other items are no less important. Thus, the steam consumption of the propelling machinery was determined by measuring the water drawn from the condenser, with a Hersey water meter. The Hersey Manufacturing Company not only lent a four-inch hot-water meter free of charge, but, not having a meter of that size in stock, they manufactured one for our use, on a rush order, exhibiting much solicitude lest they should not get it ready in season.

The Crosby Gage and Valve Company lent us gages and other instruments without charge, in their usual courteous manner.

The steam used by the auxiliary machinery and for heating was determined by flowing it through orifices placed in the auxiliary supply pipes, so that the steam to be properly charged against the turbine could be determined.

The coal consumption was determined by counting the buckets brought from the bunkers, and as the coal was uniform in size and condition, and as individual bucketfuls were weighed from time to time, this item was determined with sufficient exactness.

The speed of the ship was determined by aid of an electric taffrail-log belonging to the department, which was tested just before the trials by towing it over a measured mile in Boston Harbor. For this purpose Police Commissioner O'Meara gave us permission to use the police boat "Guardian." This log differs from the ordinary taffrail-log in that the line to the log does not turn, but that line carries wires forming an electric circuit actuating a counter on board, so that comparatively small distances can be determined satisfactorily after the error of the instrument has been determined. After leaving Boston, the ship was run at about half-speed, and at two intermediate speeds as well as a full speed, so that all the necessary observations were made for a progressive speed trial.

All the instruments and apparatus used during the tests were standardized before or after the tests, and preliminary results have been computed, part of them appearing in theses, as already said. It is expected that a complete technical report of the tests will be communicated to some scientific society, but it was thought that the conditions and extent of the investigations would be of interest to readers of the REVIEW.

CECIL H. PEABODY, '77.

GENERAL INSTITUTE NEWS

THE CORPORATION

At the regular meeting of May 31, the Corporation granted degrees to three Doctors of Philosophy, fourteen Masters of Science, and two hundred and eight Bachelors of Science, as noted elsewhere in the REVIEW. They confirmed various appointments and promotions, also given elsewhere, made by the Executive Committee, and listened to the reading of reports from several Visiting Committees. In the absence of Dr. Pritchett, Mr. William Endicott presided.

The Executive Committee has accepted the resignation of Dr. Henry S. Pritchett as president, to take effect not later than July 1. Professor Arthur A. Noyes, '86, Chairman of the Faculty, has been appointed acting president.

By the will of the late Alexander S. Wheeler, for so many years a devoted member of the Corporation and of its Executive Committee, the Institute receives $5,000.

THE FACULTY

REPORT OF THE COMMITTEE ON ORGANIZATION

At the Faculty meeting of May 23, 1906, a special committee of ten members, known as the Committee on Faculty Organization, was appointed to consider and report upon the desirability of modifying the organization of the Faculty and of making changes in some of the methods of conducting Faculty business, and to this committee was referred a memorandum in regard to these matters presented to the Faculty by the President. A report was presented by the Committee on Feb. 6, 1907; and this was adopted by the Faculty on April 17, 1907, in a somewhat amended form, substantially as follows:—

With reference to the general principles involved it is the opinion of the Faculty:—

(1) That it is advisable that the Faculty, as a whole, continue to deal with questions of educational policy.

(2) That it is advisable that the Faculty, through its officers and committees, continue to carry on the work of administration, consultation, and correspondence, so far as these are connected with the studies, the registration, and the records of students.

(3) That it is advisable that the administrative work of the Faculty continue to be carried on by its officers and by its various standing committees rather than by a single administrative board or council chosen by the Faculty.

(4) That it is advisable that the Faculty meetings be relieved from certain business which can advantageously be transacted by committees, and that more definite provision be made for the preparation and presentation to the Faculty itself of matters which should receive its consideration.

(5) That it is advisable that in each term two or more conferences of the instructing staff of the respective departments be held for the discussion of matters of departmental policy and the improvement of methods of instruction, in order that interest and initiative may be developed in the instructing staff as a whole, and that a definite and recognized influence in matters of policy may be more generally exercised.

(6) That the Faculty, in response to the suggestion made by the President, express its appreciation of the desirability of some form of advisory relation between the Corporation and the Faculty, and its readiness to co-operate with the Corporation in the preparation of a plan for establishing such a relation.

In pursuance of the principle expressed by the fourth of the foregoing resolutions the following recommendations of the Committee were also adopted:—

(7) That there be a new standing officer of the Faculty known as Chairman, whose duty it shall be to preside over the Faculty meetings in the absence of the President. He shall be elected each

year by ballot at the annual meeting; but no member of the Faculty shall serve continuously as Chairman for more than two years.

(8) That there be a new standing committee, known as the Committee on Faculty Business, consisting of the President of the Institute, the Chairman, Dean, and Secretary of the Faculty, and of four other members of the Faculty. Of the elected members, two shall be chosen each year for a term of two years; and no such member of the committee shall be eligible for immediate re-election. It shall be the duty of the committee to bring before the Faculty questions of general policy, reports of work at other institutions, and other matters for general discussion; also to arrange for the presentation of annual reports from the other standing committees of the Faculty. The committee shall arrange for occasional meetings of the entire instructing staff or of any appropriate portion of it for the presentation and discussion of questions affecting the interests of the Institute.

(9) That there be a new standing committee, known as the Committee on Courses of Instruction, consisting of five members. To this committee all proposed changes in undergraduate course schemes shall be referred; and it shall be its duty to make recommendations to the Faculty on all such proposed changes.

(10) That there be a new standing committee, known as the Committee on Faculty Rules, consisting of three members, of whom the Secretary of the Faculty shall be one, to which all proposed changes in Faculty rules shall be referred and which shall prepare a new edition of the rules annually.

(11) That there be a new standing committee known as the Committee on Third-year Students, which shall consist of members of the Faculty who give instruction in third-year subjects. It shall consider all semi-annual and annual records of third-year students, and recommend to the Faculty suitable action in regard to them. The Secretary of the Faculty shall be Chairman of this committee.

Certain other recommendations were also adopted, which provide for carrying the foregoing actions into effect and which deal with other matters of Faculty procedure.

OFFICERS

At the annual meeting, May 15, the following officers were elected: Chairman, Arthur A. Noyes; Secretary, Allyne L. Merrill; Dean, Alfred E. Burton.

APPOINTMENTS AND PROMOTIONS

Promotions from Associate Professor to Professor.—John O. Sumner, A.B., Professor of History; Frederick H. Bailey, A.M., Professor of Mathematics; Henry Fay, Ph.D., Professor of Analytical Chemistry.

New Appointment.—Reginald A. Daly, Ph.D., Professor of Physical Geology. Professor William O. Crosby, S.B., has been retired under the Carnegie Foundation.

Promotions from Assistant Professor to Associate Professor.—Henry G. Pearson, A.B., Associate Professor of English; Ralph R. Lawrence, S.B., Associate Professor of Electrical Engineering; George C. Shaad, S.B., E.E., Associate Professor of Electrical Engineering.

New Appointment.—Edwin B. Wilson, Ph.D., Associate Professor of Mathematics.

Promotions from Instructor to Assistant Professor.—Leonard M. Passano, A.B., Assistant Professor of Mathematics; George L. Hosmer, Assistant Professor of Civil Engineering; Charles B. Breed, S.B., Assistant Professor of Civil Engineering; George E. Russell, Assistant Professor of Civil Engineering; Maurice De K. Thompson, Ph.D., Assistant Professor of Electro-Chemistry; Henry L. Seaver, A.B., Assistant Professor of English.

New Appointments.—Gilbert N. Lewis, Ph.D., Assistant Professor of Physico-Chemical Research; Earle B. Phelps, S.B., Assistant Professor of Research in Chemical Biology; Edward E. Bugbee, Assistant Professor of Assaying; L. E. Moore, Assistant Professor of Civil Engineering.

Resignations.—George V. Wendell, Ph.D., Associate Professor of Physics; F. P. McKibben, Associate Professor of Civil Engineering; R. W. Lodge, Assistant Professor of Mining Engineering; D. W. Johnson, Assistant Professor of Geology.

The following Instructors have received leaves of absence.—Clifford M. Swan, S.B., Instructor in Physics; Clarence L. E. Moore, Ph.D., Instructor in Mathematics; Francis Harold Dike, A.B., Instructor in Modern Languages.

Returned from leave of absence.—Daniel F. Comstock, Ph.D., Instructor in Theoretical Physics.

Resignations.—Champion H. Mathewson, Ph.D., Instructor in Analytical Chemistry; C. F. Willard, Instructor in Marine Engineering.

Promotions from Assistant to Instructor.—Royall D. Bradbury, Instructor in Civil Engineering; Clinton H. Collester, A.M., Instructor in English; Harold G. Crane, S.B., Instructor in Electrical Engineering; Waldo V. Lyon, S.B., Instructor in Electrical Engineering.

New Appointments.—Nels J. Lennes, M.Sc., Instructor in Mathematics; Richard C. Tolman, S.B., Instructor in Theoretical Chemistry; Robert S. Williams, Instructor in Analytical Chemistry; Ellwood Barker Spear, A.B., Instructor in Analytical Chemistry; Henry B. Phillips, Ph.D., Instructor in Mathematics; Raymond Haskell, S.B., S.M., Instructor in Physics; Herbert T. Kalmus, Ph.D., Instructor in Physics.

Appointments as Assistants.—Charles R. Bragdon, A.B., S.B., Assistant in Theoretical Chemistry; Paul S. Fiske, A.B., Assistant in Inorganic Chemistry; George F. White, S.B., Assistant in Organic Chemistry; Frank B. Shields, Assistant in Technical Analysis; Herman W. Mahr, Research Assistant in Technical Chemistry; Ralph G. Hudson, S.B., Assistant in Electrical Engineering; C. W. Green, Assistant in Electrical Engineering; A. E. Harrold, Assistant in Electrical Engineering; E. J. Edwards, Assistant in Electrical Engineering; Clarence C. Knipmeyer, Assistant in Electrical Engineering; Carleton Bell Nickerson, A.B., A.M., Assistant in Inorganic Chemistry; William W. Kennedy, A.B., Assistant in Inorganic Chemistry; Octavus Libbey Peabody, S.B., Assistant in Analytical Chemistry; Walter Brayton Gonder, S.B., Assistant in Analytical Chemistry; Richard G. Woodbridge, Jr., S.B., Research Assistant in Organic Chemistry; Charles E. Allen, S.B., Assistant

in Civil Engineering; Henry B. Alvord, S.B., Assistant in Civil Engineering; James M. Barker, S.B., Assistant in Civil Engineering; Allan R. Cullimore, S.B., Assistant in Civil Engineering; Raymond F. Conron, S.B., Assistant in Civil Engineering; James E. Garratt, S.B., Assistant in Civil Engineering; Clarence D. Howe, S.B., Assistant in Civil Engineering; Hudson B. Hastings, S.B., Assistant in Civil Engineering; Robert S. Gardner, S.B., Assistant in Mechanical Engineering; Charles A. Eaton, S.B., Assistant in Mechanical Engineering; John J. Thomas, S.B., Assistant in Mechanical Engineering; Bryant Nichols, S.B., Assistant in Mechanical Engineering; Kenneth Moller, S.B., Assistant in Mechanical Engineering; William W. Bigelow, S.B., Assistant in Mechanical Engineering.

Resignations.—John C. Hudgins, A.B., Assistant in Inorganic Chemistry; Ralph S. Gifford, S.B., Assistant in Theoretical Chemistry; Frank J. Quinlan, Assistant in Inorganic Chemistry; Albert H. Smith, Assistant in Mechanical Engineering; Albert L. Smith, S.B., Assistant in Analytical Chemistry; Anna M. Cederholm, S.B., Assistant in Technical Chemical Research; Walter G. de Steiguer, S.B., Assistant in Geology; Arthur Neale, S.B., A.R.C. Sc., Assistant in Technical Analysis; Fred C. Mabee, A.M., Research Assistant in Physical Chemistry; Ledyard Sargent, A.M., Research Assistant in Physical Chemistry; E. B. Spear, B.A., Research Assistant in Physical Chemistry; Robert W. McLean, S.B., Assistant in Mechanical Engineering; Horace J. McIntire, S.B., Assistant in Mechanical Engineering; Floid M. Fuller, S.B., Assistant in Mechanical Engineering; Henry R. Patterson, S.B., Assistant in Mechanical Engineering; Everett F. Tomlinson, S.B., Assistant in Mechanical Engineering; William Tufts, S.B., Assistant in Civil Engineering; George R. Guernsey, S.B., Assistant in Civil Engineering; Arthur M. Chidester, S.B., Assistant in Civil Engineering; Harold W. Beers, S.B., Assistant in Civil Engineering; Kilborn Whitman, Jr., S.B., Assistant in Civil Engineering; Carl T. Humphrey, S.B., Assistant in Civil Engineering; F. C. Starr, Instructor in Civil Engineering; George A. Rodenbaeck, S.B., Instructor in Electrical Engineering.

Lecturers.—New Appointments: James F. Kemp, A.B., E.M. Sc. D., on Economic Geology; M. C. Whitaker, S.M., on Factory Organization and Management.

COURSES FOR COLLEGE GRADUATES

A committee was appointed some time ago to consider the question of courses of study for college graduates. The following recommendations of this committee have been adopted:—

First.—That each department be requested to arrange a "fifth year" or "graduate year" of elective studies suitable for a program leading to the Master's degree as soon as it is prepared to receive students for graduate work, and that the lists of proposed subjects be referred to the Committee on Advanced Degrees and Fellowships before presentation to the Faculty. The committee urges that this be done at the earliest possible date. The admirable programs for advanced work which have been submitted in connection with the tentative three-year schedules indicate that several departments now offering no fifth year course are prepared to do so at present or at an early date.

Second.—That a more specific statement than that given at present be made in the Program, Catalogue, and special circular on Opportunities for College Graduates regarding the previous preparation necessary for admission of college graduates to the third year of each course, together with recommendations from each Department as to what subjects may advantageously be taken in the Summer School prior to or after entrance.

Third.—That college graduates who have completed (in general with not less than one year's residence) substantially all requirements in any course up to the beginning of the fourth year be allowed, subject to the approval of the Faculty, to become candidates for the Master's degree without taking the Bachelor of Science degree, on the basis of two years of additional work.

The requirements for this work would in general include subjects in the fourth year of the regular course, and subjects chosen from the list of studies offered in the fifth or graduate year, together with the preparation of a thesis. The choice and distribution of

studies constituting the schedules of both years should be made in consultation with the head of the department (it being understood that the work of the first year would consist mainly of the work of the regular fourth year) and the schedules should be approved by the Committee on Advanced Degrees and Fellowships or by a special committee of the Faculty.

Fourth.—That a revised circular on Opportunities for College Graduates be prepared, in which the required and elective subjects of the last two years of study leading to the Master's degree referred to in the preceding recommendation be included.

DOCTOR OF PHILOSOPHY

The following form of diploma for the degree of Doctor of Philosophy has been approved:—

THE MASSACHUSETTS INSTITUTE OF TECHNOLOGY,
upon the recommendation of its Faculty,
hereby confers on

.....

the degree of

DOCTOR OF PHILOSOPHY

in recognition of his scientific attainments and ability to carry on original research, as demonstrated by the presentation of a thesis describing an investigation in ..... and by the pursuit of advanced studies in .....

Given under the seal of the Institute at Boston in the Commonwealth of Massachusetts on this....day of ..... in the year of our Lord one thousand nine hundred and .....

Secretary. [SEAL] *President.*

Students to whom the degree of Doctor of Philosophy is awarded are required to present within six months three hundred printed copies of their theses.

RESEARCH LABORATORY OF PHYSICAL CHEMISTRY

Three of the candidates for the degree of Doctor of Philosophy, Raymond Haskell, Robert B. Sosman, and Morris A. Stewart, who have been pursuing the work in the Research Laboratory of Physical Chemistry during the past three years, have completed their researches and courses of advanced study, and were awarded that degree by the Institute at the graduation exercises. Their theses were carried out in the subject of Physical Chemistry, and were entitled: "The Effect of Concentration and Ionization on the Rates of Diffusion of Salts in Aqueous Solutions," by Raymond Haskell; "The Hydrolysis of Ammonium Acetate and the Ionization of Water at High Temperature," by Robert Browning Sosman; "The Dissociation Relations of Sulphuric Acid," by Morris Archer Stewart.

FELLOWSHIPS

The following students have been awarded fellowships for the ensuing year:—

R. B. Arnold, for study in the Research Laboratory of Physical Chemistry at the Massachusetts Institute of Technology; E. F. Church, Jr., S.B. '01, for the study of Mechanical Engineering at the Massachusetts Institute of Technology; R. S. Gifford, S.B. '05, for the study of Chemistry in Germany; E. C. Jacobs, S.B. '97, for the study of Mining Engineering at the Massachusetts Institute of Technology; W. K. Lewis, S.B. '05, for the study of Chemistry in Germany; W. E. MacDonald, A.B. University of Tennessee, for the study of Mathematics at Harvard University; C. M. Swan, S.B. '99, for the study of Physics at Harvard University; R. C. Tolman, S.B. '03, for the study of Physical Chemistry at the Massachusetts Institute of Technology; and E. W. Washburn, S.B. '05, for the study of Physical Chemistry at the Massachusetts Institute of Technology.

DEGREES

On June 4 for the first time the Institute conferred the degree of Doctor of Philosophy on three students. Fourteen students received the degree of Master of Science, and the degree of Bach-

elor of Science was awarded to 208 students, the distribution of courses being as follows: Civil Engineering, 37; Mechanical Engineering, 52; Mining Engineering, 22; Architecture, 21; Chemistry, 10; Electrical Engineering, 32; Biology, none; Physics, 5; Chemical Engineering, 14; Sanitary Engineering, 3; Geology, 2; and Naval Architecture, 10.

CHANGES IN COURSE SCHEMES

The principal changes in course schemes are those for Courses II. and XIII., the general natures of which were indicated in the last number of the REVIEW.

The course in Biology has also undergone modification, and is now developing very largely along the lines of Sanitary Science and Industrial Bacteriology. Changes in the course in Electrical Engineering are now under consideration, which will doubtless result in modifications similar to those already accomplished in Courses I., II., XI., and XIII.

Beginning in 1909, two elective subjects will be required of applicants for admission to the Institute.

THE CILLEY BEQUEST

The will of Frank H. Cilley, '89, by which a bequest amounting to about $75,000 was left in trust for the equipment of the Walker Memorial Gymnasium in certain specified directions, was recently allowed by the Supreme Judicial Court of this State, confirming a similar judgment previously rendered in the Probate Court. The will was being contested by the brother of the deceased on the ground of unsoundness of mind at the time of the execution.

NOTES

The Executive Committee have approved the recommendation of the Faculty that a fee of $5 shall be charged each applicant for entrance examinations. This fee is to be credited on the first term bill of those students who enter the Institute.

The list of options in third year General Studies has been in-

creased by the addition of a course in Argumentation and Debate; and the course in History of Science has been extended, so that it comprises two terms of work instead of one.

The alumni office, which has already proved of so much value to various Technology interests, will in future be maintained by the Institute under the general direction of the Secretary.

DEPARTMENT NOTES

CIVIL ENGINEERING

Professor McKibben, of the Civil Engineering Department, has resigned his position at the Institute to accept the position of Professor of Civil Engineering, in charge of the department at Lehigh University, succeeding Professor Merriman, who has been at the head of this department for many years. Professor McKibben leaves the Institute with the best wishes of all his associates and their confident hopes that he may achieve high success and reputation in his new position.

The demand for graduates from the Civil Engineering Department during the past few months has shown no falling off as compared with previous years. Many applications have been received, the total number being far in excess of the number of men available. The great works in engineering now in progress in this country, such as the New York Water Supply, the Panama Canal, and the terminal improvements of railroads, etc., continually call for large numbers of young men; and a young man who graduates from the Civil Engineering Department, and who can be personally recommended by his professors, is sure of a good position.

Mr. R. D. Bradbury, assistant in the Civil Engineering Department, is spending the summer in the employ of S. E. Thompson, the concrete expert.

The Summer School of the Civil Engineering Department is more largely attended this year than ever before, between twenty-five and twenty students leaving Boston to take part in this course, which will this year be held at Rangeley, Me. The work will be under the charge of Professor Robbins, assisted by Professors Breed and

Hosmer, Instructor Russell, Mr. Starr, who has been an assistant in the department, and Mr. Barker, one of the graduates of this year.

Following is an extract from Boston *Transcript* of June 6, 1907:—

In conferring the honorary degree of Doctor of Laws on Professor George Fillmore Swain yesterday, the University of New York did not for the first time honor the head of the Civil Engineering Department of the Massachusetts Institute of Technology and member of the Boston Transit Commission. It was this same university which some time since appointed him one of the electors of the Hall of Fame. Professor Swain received his latest honor by reason of his efforts to advance scientific education, and his eminent work and his high reputation as an engineer.

MINING ENGINEERING

Professor Richard W. Lodge has handed in his resignation of his position in charge of assaying and a portion of the work in metallurgy at the Institute. He has now been with us nineteen years, and his stay has been noteworthy from the care and the thoroughness with which he has done his work, and the effort he has always made to instill this idea of thoroughness into the students of the department who have had the privilege of working with him. He will be much missed by the corps of instructors of the department, as well as by the students. That he may find congenial occupation is the wish of all the department. He has been invited to keep his desk at the school and to make it his headquarters at such times as his convenience makes it satisfactory for him to do so.

In his place Professor Edward E. Bugbee, class of 1900, who has been at the University of Iowa and later at the University of Washington at Seattle, giving the instruction in metallurgy and assaying, has received the appointment. Professor Bugbee is well known to all the department and highly esteemed. It is hoped that he will be able to continue the good work which has been carried on in the past by Professor Lodge, and that he will also bring in new ideas which he has gathered in his experience in the West.

The Summer School of the Mining Department this year has visited Maryland, Pennsylvania, and New Jersey. Among the places

visited and studied were the steel works of the Maryland Steel Company, the steel works of the Pennsylvania Steel Company, and the concentrating works of the latter company at Lebanon, Pa., the steel plant at Bethlehem, Pa., a cement plant in the Lehigh Valley, an anthracite mine and breaker, and a zinc plant of the New Jersey Zinc Company in the Lehigh Valley. In New Jersey the Atha Steel Casting Works and the Balbach Silver Lead Plant were visited, in New York the Raritan Copper Works, and the Nichols Copper Company. The trip was finished on the 25th of June.

ARCHITECTURE

The studio of the Department of Architecture was the scene, April 9, of the April meeting of the Boston Society of Architects. Dr. Pritchett, Professor Burton, and the members of the instructing staff of the department, together with the students who received awards and mentions in the recent competition, were present as the guests of the society.

A dinner was served at 6.30, and the smoke talk, at which the fourth and fifth year architects were present, was held at eight o'clock. R. Clipston Sturgis gave a talk on "Houses and Gardens in Wells, England," and Mr. Atkinson spoke on "Subway Connections."

CHEMISTRY AND CHEMICAL ENGINEERING

The following instructors and assistants have resigned their positions: Dr. Champion H. Mathewson, Instructor in Analytical Chemistry, Miss Anna M. Cederholm, Research Assistant in Technical Chemistry, and Dr. Raymond Haskell, Instructor in Theoretical Chemistry, all of whom expect to teach next year; Mr. Ralph S. Gifford, Assistant in Theoretical Chemistry, who expects to study abroad; and Messrs. John C. Hudgins and Frank J. Quinlan, Assistants in Inorganic Chemistry, Albert L. Smith and Frederick J. Willcox, Assistants in Analytical Chemistry, Arthur Neale, Assistant in Technical Analysis, and Leavitt N. Bent, Research Assistant in Technical Chemistry, all of whom are to take positions in

the industrial field. The new members of the instructing staff for next year are: Mr. Robert S. Williams, Instructor in Analytical Chemistry, who returns from study in Germany; Dr. Elwood B. Spear, Instructor in Analytical Chemistry, who has for the past year been Research Assistant in Physical Chemistry; Mr. Richard C. Tolman, Instructor in Theoretical Chemistry, who is a graduate student in Physical Chemistry; Mr. Charles R. Bragdon, Assistant in Theoretical Chemistry, and Mr. Octavius L. Peabody, Assistant in Analytical Chemistry, both graduates in Chemical Engineering of 1907; Messrs. Walter B. Gonder, Assistant in Analytical Chemistry, Hermann W. Mahr, Research Assistant in Technical Chemistry, Richard G. Woodbridge, Jr., Research Assistant in Organic Chemistry, and Frank P. Shields, Assistant in Technical Analysis, all graduates in Chemistry of 1907; Mr. Paul S. Fiske, Assistant in Inorganic Chemistry, a graduate of Harvard, 1907; Mr. William W. Kennedy, Assistant in Inorganic Chemistry, a graduate of the University of Minnesota; and Mr. Carleton B. Nickerson, Assistant in Inorganic Chemistry, a graduate student from Clark College at Worcester. Mr. John F. Norton, Assistant in Organic Chemistry, is transferred to Industrial Chemistry, and Mr. George F. White is transferred from Analytical Chemistry to Organic Chemistry.

Dr. Mathewson will spend the summer in the research laboratories of the General Electric Company at Schenectady, but expects to give instruction in Metallography at Yale next year. Mr. A. L. Smith expects to remain for some time in the laboratory at Schenectady. Mr. Neale has a position with the Spencer-Kellogg Company at Buffalo, and Mr. Willcox is located at Duquesne, Pa., with the steel industry.

The changes in methods of instruction which have been outlined in the REVIEW have apparently been successful. The degree of interest aroused by the course in Inorganic Preparations in the past year, which replaced that in Qualitative Analysis for a number of the students, was very satisfactory. It is too early to ascertain the effect of this change upon subsequent courses.

The department conferences will be continued next year. Those of the present year dealt with the important branches of instruction

in chemistry as such, and in the later conferences it is intended to discuss and compare methods of instruction, and to consider the relations of the chemical instruction to the work of the various professional courses, as to effectiveness under existing conditions.

One of the most important innovations of the year, which has also been noted in the REVIEW, is the beginning of a Research Laboratory of Technical Chemistry. Through the employment of two assistants under Dr. W. H. Walker the work has already led to results which are of great interest and importance, and it is gratifying to state that an appropriation from the Charlotte B. Richardson Fund has been made which will permit the continuance of the work next year. It is earnestly to be hoped that a permanent endowment for this laboratory may soon be secured. An outline of the work of the past year follows.

The work, as already outlined in the REVIEW, has been largely concentrated upon the problem of the corrosion of iron and steel. Two phases of the subject have now been practically completed. The first constitutes in part the matter presented as a thesis by Mr. Colby Dill last June for the degree of Master of Science, and has to do with the influence of stress upon the corrosion of iron. Considerable work, highly contradictory in the results obtained, had already been done, and engineers are divided in opinion as to whether stress is a real factor in causing corrosion. It is thought that Mr. Dill's work conclusively proves that stresses which produce strains not exceeding the elastic limit of the metal are without effect upon the potential of the metal, and, therefore, cannot influence corrosion. As the stress is increased beyond the elastic limit, a large increase in potential is noted, but which exists only as long as the stress is applied. After fracture the strained metal usually shows the same potential as the unstrained piece, although exceptions were found. In these exceptional cases the electromotive force of the system was as often found to be less than that of the unstrained metal as it was found to be greater than the latter, so that its behavior under such conditions cannot be predicted. These results have received indorsement by other work of this laboratory, in which the difference of potential between hard-drawn wire (which may be assumed to be

still strained beyond its elastic limit) was measured against the same wire carefully annealed. The variations between the two wires were found to be no greater than those between different portions of the same wire. The conclusions are, therefore, that within the elastic limit (which covers the greater portion of the cases met with in engineering practice) stress is without influence upon corrosion, and that beyond this limit the influence of stress has superimposed upon it other factors of greater importance not yet determined.

The second portion of the work, which has been carried on by Miss Anna M. Cederholm and Mr. Leavitt N. Bent, has been devoted to an explanation of the mechanism of the reaction by which corrosion of iron or steel takes place. The theory generally held and most frequently given in text-books is to the effect that iron will corrode only in the presence of liquid water, oxygen, and carbon dioxide. Dr. W. R. Whitney, while at the Institute, enunciated a theory based upon Nernst's conception of electromotive force and the modern theory of solutions. He pointed out that corrosion is an electrochemical phenomenon depending only upon the difference of potential between two points and the resistance in the circuit. Iron dissolved in water free from both oxygen and carbon dioxide because the solution pressure of iron is greater than that of hydrogen, in a way analogous to the well-known precipitation of copper from a copper sulphate solution by iron, the latter being dissolved. Hence acidic reagents, even carbon dioxide, which increase the concentration of the hydrogen ion, will accelerate corrosion, and, on the other hand, reagents which decrease the concentration of the hydrogen ion (as, for example, the alkalis or any salts which by hydrolysis produce hydroxyl ions) will inhibit corrosion.

A number of investigators, in repeating Whitney's work, have failed to duplicate his results; and the electrochemical theory has not been generally accepted, if one may judge by references to the subject made in modern text-books. The work of this laboratory shows that Whitney was essentially correct in his conclusions, although he omitted one important factor, namely, oxygen. It has been shown that iron does dissolve in water free from oxygen and carbon dioxide, but only to a limited extent. Action ceases when

the cathodic portions of the iron become polarized by the separated hydrogen, and continues only when this polarizing hydrogen is removed. As a corollary of this, it has been found that the speed of corrosion of iron in water is a linear function of the partial pressure of the oxygen in the atmosphere above it. Experiments have been devised in which the necessity of this depolarization, in order that corrosion may continue, is easily and convincingly shown.

Another interesting fact is that those samples of iron which in practice have a great tendency to corrode, also show marked differences of potential at points selected at random over the surface of the piece, while specimens of iron which resist corrosion are almost devoid of these potential differences. The conclusions which may be drawn from these phenomena are so important that the work must be carried further before anything definite can be said regarding it.

An investigation of a method devised some time ago by Professor Walker of a process for annealing sterling silver without deterioration due to oxidation, blistering, pitting, etc., has been completed. Practically all the large silver manufacturing establishments are now operating in accordance with the principles which were made clear for the first time by this investigation.

ELECTRICAL ENGINEERING

Thirty-two men graduated from the electrical engineering course at the last Commencement, and these men are starting upon their business life with good prospects. The class that follows them will apparently be larger in numbers.

Some changes in the electrical engineering course are proposed after a consultation with a special advisory committee of engineers which was appointed by the Corporation over a year ago to confer with the teachers of the department. This advisory committee consists of Professor Elihu Thomson, of the Corporation; Mr. C. L. Edgar, president of the Edison Electric Illuminating Company of Boston; Mr. Hammond V. Hayes, chief engineer of the American Telephone and Telegraph Company of Boston; Mr.

Charles F. Scott, consulting engineer of the Westinghouse Electric and Manufacturing Company of Pittsburg; and Mr. Louis A. Ferguson, vice-president of the Chicago Edison Company of Chicago. As is well known, Professor Thomson is a member of the Corporation, Mr. Hayes spent a period in important graduate study at the Institute, and Mr. Ferguson is a graduate from Course VI. in the class of '88. The standing of Mr. Edgar and Mr. Scott in the electrical engineering profession is well known.

The advice of the visiting committee of the Corporation was also joined in this matter of the course of study with that of the special advisory committee. The Visiting Committee consists of Professor Elihu Thomson, Mr. Francis Blake, Mr. F. P. Fish, Mr. Charles A. Stone ('88), Professor Percival Lowell, and Mr. Charles T. Main ('76). All of these men have given active attention to the matter of the changes of the course with the exception of Professor Percival Lowell, whose location in Arizona has made it impracticable for him to confer.

The first year of the proposed new arrangement of the course does not differ, as far as hours are concerned, from the first year of the now existing course, but in the new arrangement the student is expected to take one foreign language for a year and a half instead of two foreign languages each for a year.

The students enter the Institute of Technology from high schools or fitting schools after having been provided with a certain amount of preparation in the German language and an equal amount of preparation in the French language, amounting to substantially two years of study of each. This seems to put the students who enter the Institute in a position to read rather easy French, so that they have a start which will enable them to read ordinary French technical literature. As far as German is concerned, the language is so much more complex that the entering students seem entirely unable to read the ordinary technical literature, and have difficulty in reading it in rather elementary form even after a year's study at the Institute. For this reason it is proposed to emphasize the study of German in the course at the Institute, and to require the students to carry the language three terms, in order that they may come to

some reasonable attainment in it. We here assume that a reasonably equal command of French is gained in the preparatory schools. While we put emphasis on the German for the reasons above stated, it is proposed to give the students the option between German, French, and Spanish for the foreign language which is to be studied in the Institute, in instances where an adequate reason can be given for taking one of the two latter instead of the German.

The changes in the course which are of greatest importance begin with the second year, and the earlier of these are particularly directed towards starting the study of applied mechanics at the opening of the second term of the second year. This is for the purpose of improving the relative order of the instruction, and this particular change is to get the applied mechanics under way relatively early, so that the students may have a knowledge of the theorems of applied mechanics for their professional studies even as early as the opening of the third year, and it is expected to get the study of this subject *per se* completed by the middle of the third year, in order that the propositions of applied mechanics may be most effectively used by the students during their distinctively professional work throughout the third and fourth years.

An analogous change, which starts applied mechanics at the middle of the second year, has already been put into effect in the civil engineering course, and will go into effect next year with the mechanical engineering course.

Another feature of the proposed changes in the second year of the electrical engineering course comprises a series of six lectures delivered during the first week and a half of the second term to the second-year men that will be given by the professor of electrical engineering. These lectures will relate to power and its applications, the importance of the place that power holds in industrial life, and the effect of the utilization of power on civilization, with the idea of briefly directing the attention of these second-year students toward the important part that the use of power plays in advancing civilization, and toward the manner in which the engineer is called upon to apply power to useful purposes. This will give the students a certain start in the direction of thoughtful consideration

of what they are about, and will fill a need which has not heretofore been provided for in the course. These lectures will also be directed toward calling the students' attention to the great importance to the electrical engineer of the study of the subjects of thermodynamics and its applications, and hydraulics and its applications, etc., in addition to the subjects that more distinctly relate to the flow of electric currents. There is a rather general tendency of students to execute their work somewhat carelessly in those subjects which are not distinctively electrical in character, but this, as a rule, is to their ultimate disadvantage as engineers, and advantage will here be taken of the opportunity of urging the students to start on a career of trying to do all of their work thoroughly.

As far as the third year of the new course is concerned, the proposed changes mostly occur as the result of the introduction of applied mechanics during the first term in a sufficient amount to finish up the class study of the subject *per se*. For this purpose the amounts of general studies given in this year are reduced somewhat, but time for these is allowed in the fourth year. The study of hydraulics is also taken up in this year, beginning with the second term, and the course extends through the first term of the fourth year. It is proposed to enlarge the students' horizon by thus increasing and improving the work done in the study of hydraulics, improving their study of steam engineering, and adding a little of the design of stationary structures in addition to the small amount of machine design which the students of Course VI. get. Opportunity is taken, however, to reduce somewhat the number of subjects studied in each term, so that thorough work may be exacted in each subject as it is assigned.

The proposed changes of the course afford the fourth-year student an opportunity to begin his thesis (which is supposed to be an investigation of some subject largely upon the student's own responsibility) at the opening of the first term, and the thesis can then run through the year. The student is also given some opportunity of selection between professional subjects, so that a certain amount of responsibility for the details of his own course of study and procedure is thrown upon him, with due advice and suggestion from the teachers

in the department, and especially from the head of the department. The students will have to be responsible for their courses of procedure after they graduate, and it seems desirable to begin to throw some of this responsibility on them while in the Institute, so that their personal sense of responsibility may be developed as far as practicable before they graduate from their engineering course. With this idea in view some fourth-year subjects which deal with professional engineering are omitted from the prescribed list, and the students are afforded an opportunity for a certain amount of selection for themselves as between the individual professional subjects, with the counsel of the teaching force of the department, as said above, and the approval of the head of the department.

The proposed rearrangement of the course also adds to the significance for the electrical engineering students of what, in the language of the Faculty, are known as general studies, such as history, economics, etc., by placing some of the study of such subjects in the fourth year, so that a student may not be misled into believing that entering upon the professional phases of his study leading to his future professional life absolves him from the manifold considerations of breadth of manhood and citizenship.

The proposed rearrangement of the electrical engineering course is now standing before the Faculty for its consideration, but it will not come up for final vote until one of the early meetings in the next college year. If passed by the Faculty, as we hope it will be passed, it is expected to put it into effect with the opening of the second term, but it can go into effect next year with the second-year men only. Obviously, the third and fourth year modifications cannot go into effect next year because the arrangement of the third year is dominated by the change in the applied mechanics, and the third-year men of next year will not have had the advantage of the study of the first half of applied mechanics in their second year.

As a temporary matter looking toward the rearrangement of the course, the Faculty has voted the privilege to Professor D. C. Jackson to give a course of lectures extending throughout the year on various phases of electric lighting, electric transmission of power, and electric railways, which will be prescribed for fourth-year students in the electrical engineering course during the next school year.

Professor Clifford has been planning to take his family on a European trip this summer, but certain matters will delay his getting away. He has, therefore, been granted leave of absence for the first month of the next college year. During the period of his absence Professor Jackson will take up the lectures in alternating current machinery, and Professor Smith will take up the lectures in theoretical electricity. Professor Clifford plans to deliver a course of advanced lectures on alternating currents. These will be for graduate students, and will be as a sequel to his course of lectures for undergraduates. They will begin early in November, and continue through the year.

Professor Laws is revising the manuscript of his admirable set of lectures on electrical measuring instruments and electrical testing, and they will soon be put in the hands of a publisher for the purpose of being issued in book form.

Professor R. R. Lawrence has now full charge of the electrical engineering laboratories. During the examination period he spent ten days in a trip of inspection of the electrical laboratories of a half-dozen of the great State universities of the Central West.

Professor Shaad, who came to the department at the opening of the last college year, is busily engaged on the manuscript of a treatise relating to central stations that will go into an engineer's pocket-book soon to be published, and he also is preparing a manuscript for a text- and reference-book on central station practice.

Professor Smith has developed a remarkable series of illustrated lectures on electrical engineering subjects, for which further opportunity will also be afforded in case the proposed changes in the electrical engineering course go into effect.

Professor Jackson completed his work as chairman of the Chicago Telephone Commission in the month of March, and the report of the commission was delivered to the Chicago City Council on April 3. Professor Jackson was appointed chairman of a board of arbitration in a matter between the city of Boston and the Edison Electric Illuminating Company of Boston, and the settlement of that question was actively taken up in the week following Commencement.

PHYSICS

Mr. Clifford M. Swan, for several years past Instructor in Physics, has been granted leave of absence for a year. He is to pursue advanced physical and mathematical studies at Harvard University.

Mr. Guy W. Eastman, Instructor in Physics and Austin Fellow of the Institute, was instantly killed May 17 by a railway train while attempting to cross the tracks of the New York, New Haven & Hartford Railroad at the Back Bay station.

Mr. Eastman was pursuing a course leading to the degree of Ph.D. in the Laboratory of Chemical Research, and combined this with the duties of a "half-time" instructor in the Department of Physics. He was an earnest student, very sound in his knowledge, and a devoted and successful teacher, with every prospect of success in his chosen profession.

A more extended sketch of Mr. Eastman's life and work appears elsewhere in this number of the REVIEW.

Professor George V. Wendell has resigned his position as Associate Professor in the Institute to become Professor of Physics, in charge of the department, at the Stevens Institute of Technology, Hoboken.

The loss of Professor Wendell will be felt very keenly and deeply both by his colleagues in the Physical Department and by the numerous students to whom he has become endeared by his unfailing kindness and help. The Stevens Institute is indeed fortunate in securing the services of so able and experienced an instructor.

NAVAL ARCHITECTURE

There having been so wide a discussion of the decay of American shipping, especially in connection with the failure of certain political expedients that were intended to bring about a revival, it is with great satisfaction that it can be reported that the Department of Naval Architecture is, in one respect at least, in normal condition; namely, that there are more applications than there are men to supply them. If there is any member of the graduating class from that department who is not at work, it is because he desires a vacation.

And it has not been necessary to appeal to the engagement list of another department to bring about this condition.

That this condition obtains should receive some publicity, because there appears just now to be an unreasoning disinclination among students in the earlier classes to take advantages of the department which has every facility for carrying out its work.

That there should have been a large increase of numbers in the department occasioned by the awakening of shipbuilding following our Spanish War, and that the reaction intensified by the collapse of the shipbuilding trust should also have been reflected by a reduction in numbers, was to be expected, and is, perhaps, not unsalutary. But with conditions as they are now it is certain that for some years to come the department will be unable to meet the demands made on it, which is doubly unfortunate, because those seeking young men who have had the training offered by the department will learn to look elsewhere, and (what is the more to be regretted) because a number of young men who desire and who ought to take that course will take up with something less congenial; and to that extent will find the discipline of education irksome instead of inspiriting.

MODERN LANGUAGES

The Modern Language Department has begun to experience the advantage of a reduction of the size of sections resulting from the exemption of students of Courses I. and XI. from a part of the language work hitherto required. This diminution of the language requirements has been extended during the past year to students of Courses II. and VIII., and seems likely to be extended next year to students of at least one other course.

Mr. Dike has left the department on a year's leave of absence. He expects to spend the summer in Brittany and the winter in Paris. He is to observe and study European methods of modern language teaching and report upon them on his return. While abroad he will be engaged also in translating into English "Elements et Théories de l'Architecture," by J. Guadet, and in preparing a text-book of popular French reading for use in American colleges. In Paris

he will take courses in philology and kindred subjects at the university.

MATHEMATICS

Appointments for the coming year include the promotion of Associate Professor Bailey, who has been a member of the department since 1891, to a full professorship; the promotion of Mr. Passano to an assistant professorship; the appointment of Dr. E. B. Wilson, of Yale University, as Associate Professor, and of Dr. H. B. Phillips and Mr. N. J. Lennes as Instructors.

Professor Wilson is a graduate of Harvard University, and took his Doctor's degree at Yale in 1900. He is a man of high scientific reputation, has published many mathematical papers, and is specially interested in the applications of mathematics in physics and mechanics. His published papers have appeared in a considerable number of American and foreign journals, and he is at present associate editor of the Transactions of the American Mathematical Society.

Dr. Phillips is a graduate of Erskine College, South Carolina, and took his Doctor's degree at Johns Hopkins University in 1904, since which time he has been Instructor at the University of Cincinnati.

Mr. Lennes is at present Instructor of Mathematics in the John Marshall High School at Chicago. He has taken his Doctor's degree at the University of Chicago, and is the joint author with Professor Veblen, of Princeton University, of a new book on the Infinitesimal Analysis.

THE UNDERGRADUATES

PROFESSIONAL SOCIETIES

Civil Engineering Society.—For the tenth time the society met April 12 at the Copley Square Hotel for its annual dinner. With several prominent men from outside and Institute professors as speakers, the talk covered nearly every phase of civil engineering work. Dean W. C. Sabine of the Lawrence Scientific School, and Professor Sedgwick spoke.

Mechanical Engineering Society.—The society held a smoker and business meeting at the Union April 11. Mr. J. C. Callan, a representative of the General Electric Company, spoke on Curtis Turbines.

The election of new officers resulted as follows: president, R. A. Angus, '08; vice-president, C. G. Jerden, '08; secretary, C. M. Steese, '08; executive committee, H. E. Allen, '08; H. R. Callaway, '08; and M. J. Turnbull, '09.

Mining Engineering Society.—A number of members of the society attended a very interesting talk on Mine Optioning and Mining Companies by Dr. Peters at the Harvard Mining Club meeting, April 4.

The Harvard Club was invited to attend, in return, the meeting of the Institute Society on April 9. Professor Richards gave a talk on Mining in Mexico, as observed by a party, of which he was one, of members of the American Institute of Mining Engineers, which took a trip through Mexico in 1901.

At the annual meeting of the society the following officers were elected: W. J. Barcus, '08, president; D. H. Maxwell, vice-president and treasurer; A. S. Dickerman, '09, secretary; W. S. Clark, '08; and A. Bridgeman, '07, executive committee.

Architectural Society.—At the annual meeting April 30 the following were elected officers: E. J. Williams, '08, president; Kurt Vonnegut, '08, vice-president; H. H. Bentley, '08, secretary; H. D. Chandler, '09, secretary; R. G. Crane, '08, H. F. Kuehne, '08, and W. F. Dolke, '08, executive committee. The report of the treasurer

showed that $535 had been added to the society's scholarship fund as the profits from the '04–'05 *Annual*. The total is now $735.

Chemical Society.—At the annual dinner, held April 17 at the Union, the following officers were elected for the ensuing year: president, Wemple, '08; vice-president, Todd, '08; secretary, Koppetz, '09; treasurer, Tetlow, '08; member of executive committee, Kelly, '09. J. F. Norton, '06, acted as toastmaster. The speakers were Dr. Talbot, Dr. Fay, Dr. Walker, and Mr. Kneeland.

Electrical Engineering Society.—Before the society at the Union, April 22, Frederick P. Fish, of the Corporation, and former president of the American Telephone and Telegraph Company, gave an address in which he urged the necessity of outside recreation.

Naval Architecture Society.—At a meeting held April 30 the following officers were elected for the ensuing year: president, M. E. Denny, '08; vice-president, A. C. Besselievre, '08; secretary, C. D. Steele, '08; treasurer, L. H. Sutton, '08.

CLUBS

Co-operative Society.—At the annual meeting of the directors the treasurer's report for the year 1906–07 was presented, showing an increase in membership and receipts from sales in the various buildings.

This year the society has handed over $950 to the Bursar, who has used it for scholarship and loan purposes. $500 has gone to the regular scholarship fund, while the other $450 has been used as a part of a so-called Bursar's fund.

This latter is a sum of money which Bursar Rand has gathered together, the income from which is to be used to help students who, through no fault of their own, lose scholarships, and to help those who are occasionally found working under conditions that are a serious handicap to good scholarship.

Civic Club.—The club held its dinner and annual election of officers at the Union April 18. About thirty were present. The officers are: J. G. Reid, president; C. Hibbard, vice-president; O. J. Crommett, secretary; R. Ellis, treasurer.

Mr. Seaver, the speaker of the evening, gave a talk on the Duty of Kicking Wisely.

The club held its last meeting May 3. The subject under discussion was, "*Resolved*, That the Introduction of Cabinet Government into the United States would be Advisable." R. Ellis, '09, a member from England, spoke on the affirmative, and S. L. Henderson, '10, spoke on the negative. The negative side received the majority of votes on the merits of the question.

Catholic Club.—May 10 the club held its last meeting of the year for the purpose of electing officers. The results were as follows: president, Joseph Pope, '08; vice-president, J. T. Gallagher, '08; secretary, F. M. Heidelberg, '09; treasurer, Joseph White, '08; executive committee, Joseph White, '08, P. F. O'Shea, '09, N. B. Enneking, '10.

El Circulo Mexicana.—The club held a dinner at the Boston Yacht Club May 4 in celebration of the 5th of May, the anniversary of the defeat of the French by the Mexicans. About twenty-five men were present, several of whom were Harvard men. Mr. Cushing, the Mexican consul in Boston, was the guest of honor.

El Circulo Mexicana was formed during this last year, and has at present about fifteen members. The dinner consisted strictly of Mexican dishes.

New York Club.—The club held its second annual dinner at the Union April 10. About thirty members were present, and they elected officers for next year as follows: C. W. Coffin, president; C. J. Belden, vice-president; C. Kurtzman, secretary; G. W. Cooke, treasurer; F. J. Friedman and H. E. Botsford, members of the executive committee.

Southern Club.—At the club's first dinner, held May 11 at the Union, Professor J. F. Norris, president of the Technology Club, was the speaker. A constitution was adopted, and officers for the next year were elected. E. F. Whitney, '07, officiated as toastmaster.

Mechanic Arts High School Club.—At the second annual dinner of the club, held April 3 at the Union, forty-five men were present, including several guests from Harvard and Tufts and under-

graduates of the school. Dr. Parmenter and Mr. Hanson of the school were present, and spoke briefly.

Cleofan.—At the last meeting the following officers were elected for the next school year: president, Miss Ruth Maxwell, '09; vice-president, Miss Florence H. Luscomb, '09; secretary, Miss Gladys Blake, '09; treasurer, Miss Lahvesia Packwood, '07.

Y. M. C. A.

Professor Talbot spoke informally at the meeting May 2 on what a scientific man's idea of God should be, and how this idea should influence his life.

Professor Porter addressed the meeting May 10. He spoke in a general way on what the Y. M. C. A. has done and is doing. He said that there has been a Christian Association at Tech for fifteen years.

A new course has been entered upon this year. In the election of Lester W. Brock, '07, as graduate secretary, Tech takes a stand with the colleges and universities foremost in Y. M. C. A. work.

Mr. Brock was one of Tech's representatives last year at the great national conference of college Y. M. C. A. and Y. W. C. A. workers at Nashville, Tenn. He also attended the Northfield conference for Eastern College Associations. In undertaking this work, Mr. Brock has the advantage of being able to devote his entire attention to the Technology Association. He will strive to guide the association to where it will be self-supporting, the end which Mr. Gates, the retiring secretary, has always had in view.

Technology will have a large delegation at the college Y. M. C. A. conference at Northfield.

INTERSCHOLASTIC DRILL

At the New England Interscholastic Championship Drill, held in the South Armory on May 1, P. A. Hall, of Medford High School, carried off first prize, while Chelsea High School was awarded the silver cup for the most points.

The squad of competitors consisted of three men from each of

the following high schools: Fall River, Medford, Chelsea, Wakefield, Brockton, Stoneham, Lowell, Methuen, Gloucester, New Bedford, Hyde Park, Dorchester, and Concord, N.H. The drill consisted of the manual of arms, marchings, and facings. Major James C. Smith, 6th Infantry, M. V. M., Captain Frank S. Wilson, and Lieutenant Clifford L. Harris, Corps Coast Artillery, acted as judges.

Before the individual drill the M. I. T. Battalion gave an exhibition company drill, and after the presentation of prizes by Major Wheeler an evening parade was held. Music was furnished between the acts by the M. I. T. Cadet Band.

"THE TECH"

The Tech held its annual banquet at the American House on May 8, seventeen members of the editorial and business staffs being present. Mr. F. P. Sibley, of the Boston *Globe*, gave a deeply interesting insight into modern newspaper work.

Henry W. Hoole, '08, has been elected editor-in-chief. W. Fred Dolke, Jr., '08, will continue as managing editor, and Raymond W. Parlin, '08, as business manager. D. C. McMurtrie, '10, has been elected secretary of the board and sporting editor.

TECH SHOW DINNER

The success of "William, Willie, and Bill" was emphasized in many ways at the Tech Show dinner at the Union, May 10. Financially, the Show will equal, if not surpass, "The Chemical Maid" in profits, as at least $1,500 will be cleared, the business manager stated.

Instead of confining the entertainment to speech-making and singing, Macomber, '07, who acted as toastmaster, hit upon the happy scheme of having many of the principals appear in costume, several of them being taken from former Shows. Thus the speeches were interspersed with stunts.

Speeches were made by Mr. J. P. Munroe, of the Corporation, Dean Burton, Bursar Rand, Professor Jackson, Professor Clifford,

Mr. McCready, Mr. Blachstein, Mr. Seaver, Professor Richards, Mr. McMillin, in "How it Happened, or the Wellesley Deal," and Mr. Francis.

ATHLETICS

RESIGNATION OF MR. MAHAN

John F. Mahan, who has been coach and director of Tech track athletics for six years, resigned his position May 7, this resignation to go into effect at the end of the present school year. His action was brought about by a disagreement over money matters between Mr. Mahan and the Advisory Council on Athletics.

CABOT MEDALS

The Cabot Medals for this year have been awarded to E. E. Turkington, '07; J. E. Johnson, '07; E. Myers, '08; G. Schobinger, '08; and F. M. Heidelberg, '09. Honorable Mentions were awarded to J. Flanders, '09; L. A. Dow, '10; F. E. Hodges, '10; R. E. Gegenheimer, '10; and T. B. Silsbee, '10.

The committee of award was composed of Professor Wendell, chairman, Dean Burton, Professors Lodge and Johnston, and Mr. Towne.

ANNUAL EXHIBITION AT THE GYM

The third annual gymnastic exhibition was held April 23. One of the most interesting events was the presentation of the Cabot medals to John Tobin, '08, Frederick Jaeger, '09, John Tresnon, '07, P. P. Greenwood, '07, and L. Tuckerman, '06, for physical development and general gymnastic efficiency. Boxing matches between Schneider and Higgins, and Starkweather and Allen, added to the interest. The other events were principally gymnastics, such as tumbling, club swinging, and excellent work on the high horizontal bar.

TRACK TEAM

May 29 Thomas W. Orr, '08, was elected captain of the track team for next year. At the New England Intercollegiate Meet on

May 26 the Tech track team secured fourth place with twenty-one points, easily out-distancing Williams, her old rival, who finished fifth with only eleven.

Dartmouth won the meet with forty-seven points, while Brown and Amherst ran a close race for second place, the former eventually winning with twenty-eight and a half points against the twenty-seven scored by her rival.

INTERCOLLEGIATE LAWN TENNIS

Technology won both singles and doubles in the eighth annual New England intercollegiate lawn tennis championships, with J. I. B. Larned and W. B. Coffin as the Institute men to win all matches. Larned walked off with the singles.

The summary for the Tech matches are:—

Singles

First Round.—Budling (Brown) beat Fanning (Tech), 7–5, 2–6, 10–8. Larned (Tech) beat Thompson (Williams), 6–4, 6–0.

Semi-Finals.—Larned (Tech) beat Stearns (Dartmouth), 6–0, 6–0. Larned (Tech) beat White (Wesleyan), 7–5, 6–3.

Final.—Larned (Tech) beat Budlong (Brown), 5–7, 2–6, 6–3, 7–5, 6–1.

Doubles

First Round.—Larned and Coffin (Tech) beat Rotch and McLain (Dartmouth), 6–3, 6–3.

Semi-Finals.—Larned and Coffin (Tech) beat Budlong and Wycoff (Brown), 6–4, 6–2.

Finals.—Larned and Coffin (Tech) beat Wolff and Graham (Amherst), 6–3, 6–2, 6–0.

DUAL MEET WITH MAINE

Tech won the meet from the University of Maine at Orono May 6 by the score of 86 to 40. The field, laid out on soft clayey ground, was a pond, and the track was very slippery.

DUAL MEET WITH BROWN

The meet on May 11 went to Brown by the score of $68\frac{2}{3}$ to $57\frac{1}{3}$ points.

	Brown.	*Tech.*
100-yard dash	5	4
220-yard dash	1	8
440-yard dash	4	5
880-yard run	4	5
1-mile run	8	1
2-mile run	6	3
120-yard hurdles	5	4
220-yard hurdles	5	4
High jump	$2\frac{2}{3}$	$6\frac{1}{3}$
Pole vault	2	7
Broad jump	5	4
Shot put	8	1
Hammer throw	5	4
Discus throw	8	1
Totals	$68\frac{2}{3}$	$57\frac{1}{3}$

RELAY TEAM

Victory was the result of the relay team's trip to the Pennsylvania games. Close in every relay, with a fast total time, the best quartette of quarter-milers in years carried off first honors in a mile relay against Wesleyan April 27 at Franklin Field, Philadelphia.

THE GRADUATES

TECHNOLOGY ASSOCIATION OF THE CONNECTICUT VALLEY

"We've had feasts of reason heretofore, and great and weighty have been the words about our hospitable board. We've been highly edified and vastly improved, and we return thanks, but this time, brethren, we are going to have a flow of soul and anything else that will flow freely. We're going to play for one whole evening." That was the purport of the call issued by the Technology Association of the Connecticut Valley to its annual banquet, which was pulled off at the Massasoit House, Springfield, Saturday evening, May 4, 1907, be it long remembered. Massasoit was an Indian, and the tribe was there. This call to a feast and grand pow-wow hit the tribe under precisely the right rib, and the replies came in per return mail. About three hundred men are on our list, but our reservation extends from the Great Bitter Water on the south to the Big Bending Water on the north. To you aliens who do not catch on, let us say that these are Long Island Sound and the St. Lawrence River. East and west we extend from Boston Bay to the Hudson, though we have not as yet catalogued all of the men east of Worcester. We shall probably get them before our next annual dinner.

So, when forty lusty and husky boys assembled in Massasoit's big wigwam, we felt that we had not printed in vain. The committee had a program that made the Keith Circuit look like the grand concert after the one-ring circus. We got it without bloodshed, but at one time it seemed as if gore must flow. We waited on a vast and opulent theatrical magnate, and humbly presented our needs. After a week's sleepless consideration his nibs favored us with a boon. He would consent that two stars should be temporarily detached from his galaxy, and shed their radiance on us for exactly thirteen long minutes for the trifling sum of forty dollars each. We kotowed, and withdrew and smiled. Then we rounded

up the autos of the M. I. T. men who live in luxury, called at the hotel of the aforesaid stars, gave them and pretty nearly the whole universe a scorching ride, a big feed at the club, and gently and soothingly presented them the opportunity they were clamoring for; to wit, to perform before us. Result: Eddie Leonard, he of Barlow, Wilson, Primrose, & West, colaborer of Lew Dockstader and many another immortal, took the whole matter in hand, and right here let us say that, if any Tech man this side of Jordan meets Eddie Leonard and doesn't embrace him as a brother, may his sons flunk at the first semi and wear no manner of sheepskin inscribed "M. I. T." Besides, if you don't do it, you'll lose a lot of fun, for Eddie Leonard is all there. We had a vaudeville show that turned the magnate deep green when he heard of it. We had nine-tenths of his entire cast, and the other one-tenth wept with the magnate, but for a different cause.

Speeches there were, songs there were, and (here's a royal cup to him!) we sang "'Tis always fair weather when good fellows get together," with merry Bullard in our hearts; and may he have heard, and been gladdened thereby! We didn't have any of the Faculty with us this year. We sent an official statement of the pace record required for entrance, and none of them could qualify. But—may his speed never grow less!—Eben S. Stevens, of Quinebaug, Conn., youngest man on the Corporation of the M. I. T., whatever his years, was there. He was the best fellow in all that goodly circle, and he made a speech so chockful of sense, humor, fun, love for M. I. T., and good cheer generally that he was cheered to the echo, and "'Tis always fair weather" was sung in rousing chorus in his honor.

Everybody had a grand time, and the next time we send out our birch-bark announcing a peace dance we anticipate that the reservation will be emptied from between the waters north and south, and from here to City Point. You'll be welcomed, feasted, toasted, tagged, and sent home. And blissful and abundant will be your memories.

Following are the names of the braves who assembled at the M. I. T. feast: Eben S. Stevens, '68, George L. R. French, '84,

Woodman S. Page, '85, Frank H. Page, '86, N. P. Ames Carter, '87, Guy Kirkham, '87, George L. Munn, '88, Paul R. Hawkins, '89, Edmund P. Marsh, '89, Darragh De Lancey, '90, S. Ellsworth Horton, '90, Moses Lyman, Jr., '90, Clarence E. Whitney, '91, Oren E. Parks, '93, H. W. Morrill, '93, N. W. Dalton, '94, Harry G. Fisk, '96, Edw. F. Smith, '96, Frederick W. Fuller, '97, Howard H. Burdick, '97, Charles L. W. Pettee, '97, Charles S. Murlless, '98, George L. Harris, '01, Fred. N. Fowler, Jr., '02, Ernest W. Pelton, '03, Elbert E. Lockridge, '03, H. P. Maxim, Charles F. Barrett, '04, A. M. Holcombe, '04, W. T. Keen, '04, Frederick W. Farrell, '04, E. O. Hiller, '04, John D. McQuaid, '04, Albert W. Nichols, '04, Frank S. Farrell, '05, Burton E. Geckler, '05, John H. Fellows, '06.

EDMUND P. MARSH, '89, *Chairman*,
P.O. Box 791, Springfield, Mass.

THE TECHNOLOGY CLUB OF PHILADELPHIA

From the *Tech*:—

PHILADELPHIA, April 4.—Dean Burton spoke at the dinner of the Philadelphia Technology Club, held this evening at the Flanders at 7.30 o'clock. His subject was "Progress in Tech Student Interests during the Last Five Years." He told of the development of student life during that time, paying especial attention to some new institutions that have recently sprung up.

Professor Burton was warmly received by the Tech graduates, of whom there were about forty-five present. The other guests at the dinner were Dr. James T. Young, dean of the Wharton School at the University of Pennsylvania; Hon. Charles E. Smith, editor of the Philadelphia *Press;* S. M. Vauclain, of the Baldwin Locomotive Works; and Major Cassius E. Gillette, chief engineer of the Philadelphia Filtration Bureau.

WASHINGTON SOCIETY OF THE M. I. T.

The society has had three regular (and one special) meetings during the past three months at its regular headquarters, the University Club, 930 16th Street, N.W., each meeting being preceded by the usual informal dinner. It is intended to continue the

regular meetings on the second Monday of the month throughout the summer.

The meeting of April 8 was unusually well attended, and listened to an extremely interesting talk by Mr. F. F. Longley, bacteriologist of the Washington Aqueduct Filtration Plant, who explained in full the construction and operation of the new plant for the purification of the city water supply from the Potomac River by sand filtration. The talk was illustrated by about sixty lantern slides covering all the features of the water system, including the aqueduct tunnel, the Washington reservoir, and the filter system proper, consisting of twenty-nine beds, each one acre in extent and filled with sand to a depth of three to four feet. The method of "scraping" the tops of the sand beds and washing the sand thus removed by apparatus specially devised for this plant was particularly described. The plant was shown to have been very successful in removing the considerable amounts of suspended clay, and all but a very small percentage of the bacteria existing in Potomac water.

A special meeting of the society was held on April 22, at which time one of the members, Mr. François Matthes, '95, just returned from the West, gave a finely illustrated talk on "Experiences of a Two Years' Campaign in the Grand Canyon of the Colorado." During the time referred to Mr. Matthes completed an extensive survey of the canyon, obtaining the measurements of its almost infinite topographical details by rapid original methods, in many cases under great difficulties on account of the inaccessibility of certain parts of the great gorge.

At the meeting of May 13 Mr. Leroy E. Kern, '02, of the Supervising Architect's Office, recently returned from the Philippine Islands, gave the society the benefit of his observations on architecture and engineering in the islands during several years' stay there in the government service at Manila, illustrated by a number of photographs. The talk was of particular interest as touching, in many ways, on general conditions of life and "the white man's burden" in the Philippines.

F. W. SWANTON, *Secretary*,
1641 13th Street, N.W., Washington, D.C.

CINCINNATI M. I. T. CLUB

The informal noon-day lunches held Tuesday of each week by the Cincinnati M. I. T. Club have been quite successful during the last two months. Ten or a dozen men are usually present, and a very pleasant social hour is spent. The officers of the club feel much encouraged by the awakened interest.

J. W. Ellms, '93, *Secretary*,
East Court and Martin Streets, Cincinnati, Ohio.

TECHNOLOGY CLUB OF NEW BEDFORD

The final meeting of the season of the Technology Club of New Bedford was held at the home of E. H. Wing on Thursday, May 2. There were eleven present. We were pleased to welcome ex-President Tillinghast, who had just recovered from a serious illness. The club entertained Mr. Clifford Wade, Tech, '08. The subject was broached of holding a midsummer meeting of the club on some of the boats of the members, and taking a moonlight sail about the bay.

Pierce, '93, Swan, '97, Robinson and Wing, '98, attended Tech Night at the Pops on June 4.

Charles F. Wing, Jr., *Secretary*,
34 Purchase Street, New Bedford, Mass.

TECHNOLOGY CLUB OF NORTHERN OHIO

President's Message

Executive Mansion, January 17, 1907.

Representatives:

T. C. of N. O.

Some months ago one Wallace cornered me with the information that the electoral college men of the M. I. T. had returned a majority in favor of yours gratefully, and that the office of president of their society, together with all perquisites, requisites, honors, and obligations therewith, was mine to have and to hold as long as said M. I. T.'s would stand for it.

Some inaugural ceremony seems fitting, and, as a Ball won't do, the Cabinet, at the suggestion of the Secretary of the Interior, has decided upon a dinner, and does now proclaim, announce, and call for full representation

from all districts at the University Club at 6.30 P.M. on the evening of Friday, January the 25th.

Members are urged, requested, and hereby ordered to be on hand at that time, and may travel on free passes, clergyman's ticket, or 3c. Tomcon, so long as they arrive safely with $1 for the Secretary of the Treasury, which will defray, pro rata, all expenses incidental to the session.

Arrangements have been made with the Hon. Secretary, and he has finally consented to accept your check for $1, or you can mail postage stamps and street-car tickets,—in any event, he wants to know right off who's coming. Please reply to him direct and quickly, that your president may try his new "big stick" on those who think they can't come.

I could write more, but Metcalfe (not Victor, but Frederick) says this is too much.

I have the honor to be, Gentlemen,

Yours Executively,

THE PRESIDENT.

N.B.—By special arrangement with the Department of Agriculture, Motch, E. R., will blossom forth in song; but Wallace has promised to keep still, as his voice is arid and uncultivated.

N.B. No. 2.—Honored professors, committees from headquarters to solicit funds for the Institute, and other diplomats cannot be listened to during this session.

FRANKLIN B. RICHARDS, '84,
President.

SIDNEY Y. BALL, '03,
Secretary.

A very enthusiastic meeting of the Technology Club of Northern Ohio was held at the University Club on the evening of January 25. Thirty members were present, including several from near-by towns, and under the able leadership of President Richards everything progressed hummingly from the start.

We sat down at two tables arranged to form the letter "T," and quickly disposed of a home-style dinner. Very soon after the cigars had been passed, the president arose, and announced that he intended to conduct an experience meeting.

The affair progressed in good "Methodist" style, and from Sheridan and Wallace to Handy and Ritchie every last one of us,

whether we liked it or not, had to get up and tell the rest of us his personal career from Commencement Day right up to the dinner time.

Of course, we were all very modest, and probably the half of our accomplishments was not related, but what we did tell served to make every one feel well acquainted, and we dispersed reluctantly, promising ourselves another gathering very soon.

S. Y. Ball, '03,
Ball Building, Cleveland, Ohio.

THE PITTSBURG ASSOCIATION OF THE M. I. T.

The Pittsburg Association is the outcome of a gathering of Tech men held in this city last April. C. T. Bartlett and P. B. Stanley, both 1906, succeeded in collecting about thirty of 1905 and 1906 men at the Hotel Duquesne on April 28.

After recovering from our surprise at seeing so many familiar faces, we realized the benefits to be derived from an association of all the classes. A committee was appointed to confer with the local alumni organization, which, they found, did not exist. Upon the advice of Mr. C. A. MacClure, '94, the sole survivor of the former association, his visitors evolved into an organization committee, and proceeded to work. The old association, inactive for several years, was declared extinct, and notices were sent out to all available addresses in the vicinity of Pittsburg.

About fifty men met at the University Club on the evening of April 4. The meeting was called to order by Mr. MacClure, who was elected temporary chairman. Mr. MacClure gave a history of the organization, its rise and fall, and rejoiced at the interest displayed by the younger men, upon whom, he said, depended the success of the new association.

A very liberal constitution, allowing membership to any one ever connected with the Institute as student or instructor, was adopted. Officers were elected as follows: L. K. Yoder, '95, president; S. B. Ely, '92, vice-president; Waldso Turner, '05, secretary-treasurer; W. I. Bickford, '01, and P. B. Stanley, '06, members of executive committee.

After the other routine business of organization was finished, the formal meeting adjourned, and everybody indulged in a general hand-shaking and in recalling amusing reminiscences.

Mr. Ely was the chief entertainer of the evening, showing some feats in legerdemain which would convince one, without other information, that he had missed his calling.

On April 4, the executive committee entertained Dr. Pritchett at dinner at the University Club on the occasion of his visit to Pittsburg to represent the Institute at the dedicatory exercises of the enlarged Carnegie Institute. Among the invited guests were the following friends of Dr. Pritchett: Professor J. A. Brashear, of the Carnegie Institute; Dr. McCormick, of the Western University of Pennsylvania; Dr. H. D. Lindsay, of the Pennsylvania College for Women; Mr. Julian Kennedy, Mr. F. T. McClintock, and Mr. C. A. MacClure.

Following the dinner some of the guests were driven to the Carnegie Music Hall, but Dr. Lindsay honored us by remaining to the reception which was held by members of the association.

Dr. Pritchett met all the men personally, and remembered many whom we had known at Tech. He gave a very interesting talk later in the evening, lucidly describing his trip to the Panama Canal Zone, and very forcibly showing that closer relation among the alumni is essential to the growth and welfare of the Institute under the new conditions. His description of the recent changes at Tech was exceedingly interesting, especially to the older men.

Dr. Lindsay responded with an enjoyable talk on college organizations.

Mr. MacClure's explanation of the distinction between professional and commercial men was not a little consoling to Tech men, who know the vast difference between the wealth of the Institute and that of other educational institutions.

The evening concluded with music, a buffet lunch, and a large amount of sociability.

While we consider ourselves the youngest association, we believe we have the enthusiasm and available material to make it one of the strongest. There are approximately one hundred and seventy-

five Tech men within a radius of fifty miles of Pittsburg, and the majority of them are from the more recent classes, showing that this district is becoming more popular each year.

We would like to confer with other similar organizations in regard to bringing the alumni of Technology into closer relations, and are very anxious to have information concerning new men in this vicinity.

WALDSO TURNER, *Secretary-Treasurer*,
1173 Frick Building Annex, Pittsburg, Pa.

NEWS FROM THE CLASSES

1868.

PROF. ROBERT H. RICHARDS, *Sec.*, Mass. Inst. of Tech., Boston.

The dinner and Pop Concert proved an extremely interesting occasion to the class of '68. We had present on the occasion Messrs. Stone, Stevens, Forbes, Hoyt, Whitney, Jackson, Fillebrown, Tolman, and Richards. Of these Stone was absent from the Pops and Whitney was absent from the dinner. This is the largest gathering of the class of '68 that we can recall since the day of graduation. The boys all enjoyed talking over old times, and it proved an extremely interesting occasion. Forbes said that he had not met Hoyt since '68, and they had to be introduced to each other. —Robert H. Richards is at Randolph, N.H., near Mount Adams, writing the appendix to his book on Ore Dressing.

My dear Bob,— . . . Last winter I again made a trip to Mexico to visit my daughter for a couple of months, and was very much struck with the enormous development of the country, which is carried on, principally, by foreign capital. For example, the Necaxa Falls, which dash over a precipice 1,500 feet high and situated ninety-five miles from Mexico City, have been developed giving 200,000 H.P. under a 1,400 foot head developed by Pelton wheels of 8,000 H.P., which generate electricity of 60,000 volts. This current is carried on iron tripods fifty feet high, by means of one-half inch copper cables, and is distributed in Mexico City, Puebla, Pachuca, and El Oro, the two latter being large mining and smelting towns. This current is used for lighting, running the electric railways and power of all kinds, and is sold at much more moderate prices than in Boston, which greatly aids development, as all fuel in Mexico is very scarce and high.

The climate there is simply perfect, being October weather the whole year through, with a temperature from fifty degrees to seventy degrees, and rain only late in the afternoons of the summer months. It certainly is a delightful climate to live in.

President Diaz, one of the most able rulers the world has seen, fearing that Harriman and others might gobble their railways, as is being done in the States, simply took over the roads for the government, paying for the majority of the stock by bonds guaranteed by the government, and, although the railways are run by an organization elected by the stockholders themselves, they are always subject to the control of the government, and no outside influence can ever control the majority of the stock.

I am looking forward to spending another winter there with a great deal of pleasure. Sincerely yours, JOSEPH STONE.

1874.

CHARLES F. READ, *Sec.*, Old State House, Boston.

Several members of the class attended the various exercises on May 31 and June 4. The class was well received at the Pop Concert in Symphony Hall, and it did its share of the jollification. —Colonel Samuel P. Colt has retired from the senatorial contest in Rhode Island.—The president of the Class Association, George H. Barrus, and wife are making a short visit to London and Paris.—Charles D. Austin, now residing in the West, has been in Boston lately, and called on the secretary.

1876.

JOHN R. FREEMAN, *Sec.*, 235 Arlington Avenue, Providence, R.I.

Nine members of the class of '76 showed up in the Commencement season at the dinner of the old classes at the Vendome, and subsequently at the Pop Concert. '76 now has three members on the Corporation; namely, Copeland, Main, and Freeman. These were all present, as were also Prichard, Galloupe, Crosby, Hapgood, and

Shillaber.—L. M. Davis was detained by the arrival of a new daughter, but looked in on some of his Eastern friends a few days later. The telephone and electric light business at Minot, N.D., of which he is general manager and one of the principal owners, is sharing in the rapid growth of this lively town of the North-west. He reports business as very prosperous.—Main is another of those who is almost suffering from excess of prosperity. He said he had about thirty construction jobs under supervision from his office. On the first of the year he dissolved his former partnership, and established new offices at 45 Milk Street. His son Charles, who graduated from Dartmouth this year, will, probably a little later, become associated with the business of the office.—Prichard is president of the American Gas Light Association, and his son, who graduated from Tech not long ago, is following in his father's footsteps, being now manager of the gas-works at Beverly. Prichard is still general manager of the Lynn Gas and Electric Company, and his services as consulting gas engineer are much in demand in various parts of New England.—Freeman has recently returned from the Isthmus of Panama, where he was one of the board of engineers appointed to investigate the foundation for the locks and the dams of the Isthmian Canal.—Crosby has retired from active teaching, on the Carnegie Foundation, but will remain connected with the Institute as Research Professor. He continues consulting geologist for the New York Board of Water Supply, and will spend a portion of the present summer in Alaska, continuing his studies on some of the special problems that have engaged his attention each summer for seven years past.

1877.

RICHARD A. HALE, *Sec.*, Lawrence, Mass.

At the reception to the graduating class by the alumni the class of '77 was represented by A. L. Plimpton, who made remarks on the art of living, and presented the class with a treatise on that subject, and also a pair of large field glasses with which to view their

future careers. Other '77 men present were Kittredge and Hale. At the Commencement reunion '77 joined with the earlier classes in the class dinner. Bradford, Davis, Gray, Gowing, Sherman, and Hale were present at the dinner and Pop Concert. No special observance of the thirtieth anniversary of graduation was arranged. —Hallett, '77, of Butte, Mont., is an enthusiastic mountaineer. He is an ex-president of the Rocky Mountain Club, and discovered a large glacier in Colorado, known as Hallett Glacier, at which time he nearly lost his life by falling into a crevasse. One of the lofty peaks in Northern Colorado bears the name of Mount Hallett in recognition of his activity. A book published by the Appalachian Mountain Club on Mountaineering in Colorado, by Herbert Chapin, contains an interesting description of Hallett's work in this direction.—A son of Sherman is a graduate of Course I., class '06, and is connected with the New York Water Supply Commission, engaged in engineering work.

1882.

WALTER B. SNOW, *Sec.*, 29 Russell Avenue, Watertown, Mass.

The twenty-fifth reunion was celebrated in accordance with the following program: June 3, harbor trip for members and ladies. Class dinner in evening. June 4, outing for members and families at Norumbega Park. Pop Concert in evening. Sixteen were present at the dinner.—Ayer is now president of the Eastern & Western Lumber Company, Portland, Ore.—Cheney has been busy as a member of the Connecticut legislature.—Mrs. Clark (Miss Rice), of Los Angeles, Cal., expected to attend the reunion.—Cochran is still abroad, his last letter being dated at Berlin, and expects to remain during the summer.—Rufus F. Herrick is now located at 2 Kilby Street as consulting chemist, with denatured alcohol as a specialty. —Special features of the reunion were the selection of class colors and the development of a class cheer,—object-lessons to older classes without these essentials of organization.

1883.

HARVEY S. CHASE, *Sec.*, 27 State Street, Boston.

Capen has finished a new patent leather factory at Canton Junction which will triple his previous output. He has a son preparing for Tech and expecting to enter in 1909.—Underwood has recently been at Des Moines, Ia., fitting up a new factory for manufacturing glue in connection with the independent packers.—Smith has a specific for the whooping-cough. Has tried it on three children, and they survived. Will now hire both Capen's and Underwood's new factories and manufacture the compound. Wants good agents. Members of '83 preferred. (Received by wireless.)—Gale, '83, has again taken up the business of electric heating in which he was interested ten years ago, and is now chief engineer of the Simplex Electric Heating Company, with headquarters in Cambridgeport, and living at Natick.—"Herbert Tyler Bardwell, forty-seven years old, well known as a civil engineer, died suddenly April 10 of heart trouble and complications in the home of his parents, Francis M. and Lucy Tyler Bardwell, 91 Woodside Terrace, Springfield, Mass. He had been in poor health for some time. Mr. Bardwell was born in Belchertown, Oct. 27, 1859, and moved to Springfield when a young man. He was educated in Wesleyan Academy, Wilbraham, and at the Massachusetts Institute of Technology, where he was graduated with the degree of B.S. in 1883. He was subsequently connected with the Holyoke Water Power Company and the West End Street Railway Company of Boston, and for three years was instructor in civil engineering in the Massachusetts Institute of Technology. Owing to ill-health, he had not been active in his profession for several years. He was a charter member of Technology chapter, Sigma Chi fraternity. Besides his parents he leaves a brother, Arthur E., and two sisters, Marian E. and Lucy L. Bardwell, all of this city."

1884.

PROF. WILLIAM L. PUFFER, 207 Equitable Building, Boston.

Reported by Dr. Gill in absence of the class secretary: "I saw Damon at the Technology Club on graduation day. He is in New York, where he has been for the past eight years, with the Northwestern Life Insurance Company.—Holder came to the alumni reception, and, judging by his looks, time has dealt with him kindly. He reports that he is now in better health, and expects to take more active interest in M. I. T. and class matters.—Tyler has been taking lessons in carpentry, and is assisting in building himself a summer cottage on Lake Winnipesaukee.—Du Pont was at the Pop Concert, looking as well as in the old days."

1886.

PROF. ARTHUR G. ROBBINS, *Sec.*, Mass. Inst. of Technology, Boston.

Following the custom established at the reunion, the classes of '85, '86, and '87 dined together on the evening of June 3, and afterwards attended the "Pops" in a body. The '86 men present were Anthony D. P. Bartlett, Borden, Chase, Cobb, Cutter, Locke, Miller, Noyes, and C. C. Peirce.—Locke has recently had the enviable distinction to be appointed president of the Boston Young Men's Christian Union, to succeed Mr. William H. Baldwin. He leaves the Boston Rubber Shoe Company July 1, and assumes his new duties in September.—Noyes receives recognition of his ability as an educator in his appointment as temporary president of the Institute,—a distinction which comes to a graduate for the first time in the Institute's history.—Since June 3 the secretary has been at Rangeley, Me., looking after twenty-seven students of the Civil Engineering Department who are taking their summer course in surveying.

1888.

WM. G. SNOW, *Sec.*, 1108 Penn Mutual Building, Boston.

The annual class dinner took place at the Copley Square Hotel on the evening of June 4. Members present: Sawyer, Holman, Blanchard, Baldwin, Williams, Snow, Runkle, Pierce, Sjöström, Wood, Collins, and Gage. A. H. Sawyer was re-elected president. Plans were discussed for a field day in June, 1908, to celebrate the twentieth anniversary of the graduation of the class. At the Pop Concert where the class reassembled after the dinner, in addition to those mentioned above, Stone and Stetson were present.—E. S. Webster and family are spending the summer abroad.—On May 1 Binney moved his law office to 2 Rector Street, New York. He is associated with Messrs. Brickenstein and Ogden under the firm name of Binney, Brickenstein & Ogden. Judge Brickenstein, a Princeton man, was for about ten years presiding examiner in chief on the Board of Appeals in the Patent Office. Mr. Ogden, a Cornell man, also of Washington, has been associated with Binney for the past five years. Aside from his professional work, Binney's classmates will be interested to know of his participation in the ocean race to Bermuda in June in his 52-foot schooner, the "Mist," of which he was the navigating officer. The start was made from Gravesend Bay, New York, at 10.35 A.M., June 5. On June 11, at 12.36 P.M., the "Mist," the smallest yacht in the first division, crossed the line in the harbor of Hamilton, Bermuda, having made a fine showing for a boat of her size.—Frank O. Stetson has resigned from the Weather Bureau, with which he has been connected for a number of years, and has become associated with Stone & Webster. He resides in Newton, Mass.—James S. Newton has become a resident of Chestnut Hill, Mass., having purchased an estate located near Boylston and Hammond Streets.—Other '88 men who reside in this attractive suburb are Webster, Bradlee, Baldwin, and Sabin.

1889.

PROF. W. E. MOTT, *Sec.*, Mass. Inst. of Technology, Boston.

Owing doubtless to the omission of the class dinner, the attendance of '89 men at the Pop was very small this year. But three men appeared.—Linzee is engaged upon plans for rebuilding the City Square station of the Boston Elevated Railroad.—Whipple has been appointed one of a board of consulting engineers to investigate and report upon a water supply for the city of Winnipeg, Canada.—H. L. Davis reports a quiet but strenuous life with the American Bridge Company, 42 Broadway, New York.—The secretary has received a few widely differing views in regard to the question of holding annual class dinners, and would be glad to hear from many more members of the class, both as to frequency and time of holding such dinners. His address from July 8 to August 17 will be care Columbia University, New York City.

1890.

GEORGE L. GILMORE, *Sec.*, Lexington, Mass.

The following changes of address have been noted since the last issue of the REVIEW: Mr. J. L. Batchelder, Jr., 10 Post-office Square, Delta Building, Boston.—Mr. F. L. Chase, 821 Columbus S. & T. Building, Columbus, Ohio.—Mr. N. G. Nims, 9 Livingstone Avenue, Yonkers, N.Y.—Mr. E. H. Brownell, Navy Yard, New York.—Mr. C. H. Alden, 604 Missouri Street, San Francisco, Cal.—Mr. B. H. Mann, 7th and Market Streets, St. Louis, Mo.—Mr. George W. Stone, who was a special in the class, is at 1753 Park Row, Washington, D.C.—Mr. Frank L. Packard, Hayden Building, Columbus, Ohio.—Mr. Cabot J. Morse, of Parker, Morse & Co., has recently returned from a tour of inspection of the Bingham Mining Camp.—Mr. Charles Hayden sailed for Europe April 27 for a short stay.—Mr. George A. Packard, who on the 1st of January took charge of the Metallurgical Department of the State School of

Mines at Rolla, Mo., has evidently made a good impression among the students as well as making them toe the line, as the following notes which appeared in their annual *Technique* will show:—

If in the future we fail "to make good,"
Say not 'tis the joiner, but say 'tis the wood,
We hold up our hands and swear by him still,
Mr. Packard, our mentor, always has our good will.

Your whiskers, Prof. Packard, are just a perfect love,
But all the hair that you have there is needed up above.

From the "Rollamo."

—From the Boston *Herald*, Feb. 5, 1907:—

The action of Atherton Loring, of Brookline, vice-president of the Library Bureau, against Herbert E. Davidson, of Watertown, president, and William E. Parker, of Newton, treasurer of the concern, for $350,000 damages for their alleged breach of contract with him, was entered in the Superior Court for Suffolk yesterday.

He declares that he became associated with them in 1897 for the control and management of the Library Bureau, a corporation of this State, and that he bought $25,000 of its stock. He claims that, under personal agreements made with him, he became entitled to receive from their holdings 4,500 shares of the common stock of the Library Bureau, a New Jersey corporation, which succeeded the Massachusetts corporation in the business. He alleges that they have failed to give him those shares.

—George E. Hale has recently received the honorary degree of D.Sc. from the University of Manchester, England. He has been on a flying trip from Mt. Wilson, Pasadena, to the continent to attend the meeting of the Solar Union at Paris, and the meeting of International Association of Academies at Vienna.

1892.

PROF. W. A. JOHNSTON, *Sec.*, Mass. Inst. of Tech., Boston.

The fifteenth annual dinner of the class was held at the Copley Square Hotel, June 4. The following men were present: Chase, C. H., Curtin, Derr, Fairfield, Fuller, Hall, Heywood, Johnston,

Kales, Locke, Manley, Park, Pettee, Pierce, Potter, Sargent, Skinner. The following officers were elected for the ensuing year: president, Leonard Metcalf; vice-presidents, John A. Curtin, J. Scott Parrish; secretary-treasurer, William A. Johnston; assistant secretary-treasurer, Lewis P. Cody. After the dinner about one hour was spent in listening to brief statements of some of the experiences that the different men have had since leaving the Institute. Kales, who has not visited the Institute since his graduation, presided as toastmaster. In response to the secretary's request for a written statement from the men who could not be present at the dinner, some of the replies are as follows: Andrew K. Robertson, of Glasgow, writes:—

Sorry I cannot be present, but Boston is a long way off from Glasgow. I have no news about myself which would interest you at present, at least I can think of none. Hope to have something interesting soon.

—W. H. Woofindale, of North Adams, writes:—

It was my intention to be with you on the 4th, . . . but . . . I have been obliged to defer my visit to some future date. However, I have done the next best thing, and allowed my assistant to attend his class's tenth celebration. . . . Please present my regards to all hands, and remember me particularly to any of the chemical crowd who may be present, and, wishing you all a grand and glorious old time, I am, etc.

P.S.—The past five years I have been with the Arnold Print Works, and that means work.

—Albert A. Pollard, whose address is 1620 Chemical Building, St. Louis, Mo., writes:—

It gives me rare pleasure to hear from Tech. Although we hear of it often in St. Louis, and there are many Tech men of the State, I know of none in St. Louis save two in our office and one in our building, and only two others in the State, both at Kansas City.

I am with Mauran, Russell & Garden, architects, and am glad of this experience in the Middle West. It seems a good one for whatever is likely to follow.

I would thank you to put me in way of local Tech news and men. Please say my word of greeting to any '92 men who may inquire for me.

—Frederick L. Rhodes, who is engineer with the American Telephone and Telegraph Company, writes, *en route*, via New York Central, Boston & Albany, and Michigan Central Railroads:—

Am sorry that a "hike" to Chicago will prevent me from seeing you and the rest of the fellows at the class festivities.

—J. Scott Parrish writes from Richmond, Va.:—

I greatly regret that, owing to business matters, it will be impossible for me to be present at the fifteenth annual meeting and dinner. The fact is, I am this year playing the part of a real Virginia colonel, and between balls, highballs, and baseballs, I am kept very busy at all moments.

P.S.—If an inventory is taken of the children, give me credit for two,—a girl six years and a boy eight months.

—Francis Walker, who is a special examiner, Bureau of Corporations, Department of Commerce and Labor, writes:—

I am sorry that I cannot get away from my work here to attend the class reunion, as I should enjoy very much meeting my classmates again. I keep track of them, however, as well as I can, through the REVIEW. Since coming to Washington, I have been brought into close touch with M. I. T. through the local alumni society, but I believe I am the only '92 man in the bunch. I do not believe I have anything especially interesting to contribute in the way of news. I quit the academic life about five years ago, and after spending a little over a year in Germany, studying the combines, especially the coal syndicate on which I wrote a book, I returned to the United States, and continued my studies along the same lines in the United States under the Bureau of Corporations. The poet has complained "What's the use of busting the trusts, if the trusts won't stay bust?" and I fancy that is the general complaint. Whether it is our business to bust the trusts or not, I leave to one side, but can assure any one that is interested that we are doing our little darndest to get the facts. About two years ago the government gave me a little five months' trip to Europe in connection with the business of the Bureau, which took me to about ten European countries, including Russia and the Balkans.

—W. E. McCaw, president of the McCaw Manufacturing Company, Macon, Ga., writes:—

Many thanks for your note of the 3d inst. A few months after leaving Tech, I interested some New York and local capital in the building of the McCaw Manufacturing Company, which concern is engaged in the manufacture of different products from cotton-seed, such as laundry soaps, compound lard, plantene (similar to cottolene), and crude cotton-seed oil as well as the various grades of refined oil. We have a little over a million and a half dollars invested in the business, and distribute our goods throughout the United States east of the Mississippi River, and our refined oil throughout Europe. I find the business exceedingly interesting, as it is only a comparatively few years ago when the cotton-seed were thrown away as being of no value. The future prospects of the business are almost unlimited, as the products are of such a nature that you can ship them almost anywhere.

—F. H. Meserve, who is connected with the commission house of Deering, Milliken & Co. of New York, writes:—

I have for the last fourteen years been connected with a New York commission house in the manufacture and sale of woollens and cottons, and am treasurer and director of several woollen mills in New England.

I am married, and have two girls, six and three years old. I am a member of the Military Order Loyal Legion and the Quill Club of New York.

—J. P. Lyons, who is at Hanover, Conn., writes:—

Answering your personal appeal for a letter to be read at the annual '92 dinner regarding the work I have been doing during the five years just past:—

The first two years of that time were spent in the estimating department of the American Car and Foundry Company at New York. The work was similar to that in every office of that nature,—figuring stresses to such an extent as may be necessary to determine size of members, preparation of a small scale plan elaborate enough to fix the different pieces of material in the car and to scale their lengths, writing the estimate (which consists of an itemized list of everything entering into the complete car), writing the summary sheet which shows the total quantity of each kind of material, its price and total cost of material in the complete car, estimated cost of labor, and a charge for general expense and delivery, finally the total cost of the car to the company, which serves as a basis for determining the selling price. Inasmuch as the railroad companies are making every effort to reduce the dead weight of their trains, and inasmuch as the work

usually had to be done in the shortest possible time, it offered splendid opportunity for the exercise of engineering skill and ingenuity in the preparation of the designs and of a quick, clear-thinking brain in the preparation of the estimate itself.

For the last three years I have been working on a farm here in Hanover. The work is nothing different from that usually found on a place that keeps six milch cows, one yearling heifer, three horses, one two-year-old colt, and from seventy-five to one hundred chickens. However, I will say that, if there is any truth in the saying that "variety is the spice of life," the farmers do not have to depend on the isles of the sea for the wherewithal to season their food. They get it in sufficiently large quantities from the variety in their daily work. To have seven or eight jobs in one day is by no means uncommon, and, when one realizes that the chores have to be done on Sunday as well as on other days of the week, in addition to an opportunity to drive to the village to attend two sessions of two hours each at the church, returning for dinner between the two, it is not hard to see that the farmer not only obtains his seasoning, but his rest also from his various activities.

It has been my fortune to do the peddling, as we call it, for nearly a year, and, as our customers comprise Americans, Scotch, Irish, French, Germans, Swedes, and Polanders, you can imagine I have had an experience the Department of Languages would do well to envy. If Professor Luquiens, Dr. Dippold, or Professor Van Dael, could listen to my "Parlez-vous français?" and "Sprechen Sie Deutsch?" they would feel sure that the modern languages I received some seventeen or eighteen years ago did not rest very heavily on my mind, for my attempts at speaking the foreign language usually end in a resort to the primitive method of communication; namely, the sign language. This, strange to say, is usually effective so far as selling my wares is concerned, which, after all, is what language is for, anyway.

However, I have seen young men and women, mill hands, who probably never attended school a day after the age of fourteen was reached, when the Connecticut State law allows children to work in the shops, and whose parents can scarcely make themselves understood in English, speak our language as fluently and with as correct an accent as any native-born American. I wonder if American boys and girls, if placed under similar conditions in France or Germany, would make as good a showing in learning the foreign language as do the foreigners who come here.

1893.

FREDERIC H. FAY, *Sec.*, 60 City Hall, Boston.

Life, enthusiasm, and good-fellowship prevailed at the annual dinner of the class at the Hotel Brunswick on the evening of Commencement Day, June 4. President Pritchett, honorary member of the class, and Bursar Rand, who became a member by adoption at the Tech reunion, were our guests, and, while there was no formal speaking, both of these members contributed much to the enjoyment of the evening. One other honorary member, Fred Parker Emery, who taught us English in our Freshman and Sophomore years, and who was the most popular instructor of the class in our whole college course, was, unfortunately, unable to leave his work at Dartmouth to come to the dinner; but, in his letter of regret which was read at the table, he says, "Please tell any classmates who may chance to inquire for me that my heart still beats true to M. I. T., particularly to its spirit as embodied in the class of '93."—Plans for the celebration of our fifteenth anniversary, next year, were freely discussed, and it was voted that another catalogue of the class be published in 1908. Henry Morss, our first vice-president, and Sam Braman could not be present, owing to the fact that the following morning they were to sail from New York on Morss's schooner yacht "Dervish," in the ocean race to Bermuda; but Morss's loyalty was proven by a check (with amount left blank) which he sent for use in the entertainment of the class at the dinner. Just how much the result of the race was influenced by the several toasts that were drunk to his success cannot be proven; but, at any rate, in due time the "Dervish" won, and once more '93 "led all the rest." (However, as Kipling says, that's another story, and will be told elsewhere.) At about half-past eight the class adjourned to the Tech Night Pop Concert at Symphony Hall, where, as usual, beneath '93's historic orange and black banner we had the honor of escorting the President, and the Bursar as well, upon the floor. The class officers were re-elected as follows: Leo W. Pickert, president;

Henry A. Morss and George B. Glidden, vice-presidents; Frederic H. Fay, secretary-treasurer; Grosvenor T. Blood, assistant secretary. Besides Dr. Pritchett and Bursar Rand the following members were present at the dinner or the Pop, or both: Bemis, S. A. Breed, Blood, E. B. Carney, Cook, Dawes, Fay, Glidden, Hopewell, Howland, Keith, F. B. Kendall, Latham, W. B. Page, Pickert, J. H. Reed, Reynolds, Sayward, Tucker, Wilson, Wingate.—Franklin G. Ashton is the south-western agent of the Union Switch and Signal Company at 544 Frisco Building, St. Louis, Mo.—Frank S. Badger is first assistant engineer of the Compania de Agua y Drenaje de Monterey, S.A., his business address being Apatardo 291, Monterey, Mexico.—George S. Barrows is connected with the Kansas City Gas Company, his office being at 910 Grand Avenue, Kansas City, Mo.—James C. Boyd is mechanical engineer with Westinghouse, Church, Kerr Co., 10 Bridge Street, New York City.—Charles E. Buchholz is engaged in the wholesale coal business at Watertown, Jefferson County, N.Y.—Dale Bumstead is located at 1523 Masonic Temple, Chicago, as manager of the E. I. du Pont de Nemours Powder Company, of which Connable of '93, is general manager. Bumstead lives at 170 North Taylor Avenue, Oak Park, Ill.—Frank L. Connable is general manager of the E. I. du Pont de Nemours Powder Company at Wilmington, Del.—Courtland R. Darrow has recently been appointed highway commissioner of New London, Conn.—Samuel D. Dodge, assistant engineer with the Board of Water Supply of New York, is located at Cornwall-on-the-Hudson, N.Y.—James A. Emery, vice-president and general manager of the Birmingham (Alabama) Railway, Light, and Power Company, was visiting friends in Boston and vicinity in June.—Clarence D. Gilchrist is the supply agent of the Pittsburg & Lake Erie Railroad Company at Pittsburg, Pa. Gilchrist's home address is Parkersburg, W. Va.—John Fred Hinckley and Mrs. Emilie Louise Lodge, of New York, were married at Brooklyn on the 14th of June. Mr. and Mrs. Hinckley will reside at 550 East Seventh Street, Brooklyn, N.Y.—Frederic Hale Keyes and Miss Annie Claflin Ellis, daughter of Mrs. Charles Warren Ellis, of Newtonville, Mass., were married on Thursday, June 27.—Walter

W. Patch, constructing engineer with the United States Reclamation Service, is at present located at Orman, Butte County, S. Dak.—Charles M. Taylor is draughtsman in the Bureau of Construction and Repairs at the Charlestown Navy Yard, Boston. Taylor's home address is 363 North Street, East Weymouth, Mass.—The engagement is announced of Miss Lavina Burton, of Arlington Heights, Mass., to Winthrop Parker Tenney, of Brookline.—Henry Morss, commodore of the Corinthian Yacht Club of Marblehead, in his schooner yacht "Dervish," won the ocean race from New York to Bermuda, which was started June 5. The yachts of the first class which were racing for the cup offered by the rear commodore of the New Rochelle Yacht Club were the "Priscilla," "Dervish," "Zuhrah," "Shamrock," "Tammany," "Zinita," "Isolt," and "Mist." Morss and Sam Braman, '93, were the navigators of the "Dervish," and the behavior of the boat is shown by the following extracts taken from the account of the race published in the Boston *Transcript:*—

HAMILTON, BERMUDA, June 10.—Commodore H. A. Morss's schooner yacht "Dervish" was the first of the yacht racers from New York to arrive here. She crossed the finish line off St. David's Head at 6.25 o'clock yesterday morning, having made the passage from Gravesend Bay, where the race was started, in 3 days, 18 hours, and 25 minutes. "Hyperion," Rear Commodore Frank Maier's new yawl, finished at 2.51 o'clock yesterday afternoon. Her passage was even more remarkable than that of the "Dervish." She made the journey in 4 days, 4 hours, and 16 minutes. She is only 49 feet long, while the "Dervish" is 83 feet in length, and, according to the system of time allowance used in the race, the "Dervish" would have had to allow 25 hours and 30 minutes to the "Hyperion" if they had been sailing in the same class. "Hyperion" had hardly arrived in the harbor when the yawl "Lila," owned by R. D. Floyd, was sighted. She finished at 6.25 o'clock, having made the voyage in 4 days, 7 hours, and 50 minutes. She gets an allowance of 6 hours and 45 minutes from the "Hyperion," so she beats that yacht by 3 hours and 11 minutes. "Dervish" crossed the starting line in Gravesend Bay at 10.36.05 on Wednesday, the starting gun having sounded at 10.35. "Hyperion," with Commodore Frank Maier at the wheel, led the fleet, and "Dervish" was the second boat. She stood over to the south-west spit, and then tacked and passed

out by the Hook at noon, well in the lead. "Shamrock" at that time was doing well, and before sundown was in second place, but some three miles to leeward of the "Dervish." The wind was from the south-east, and it held from that quarter all night. Commodore Morss acted as his own navigator, and, as the wind was ahead, he did some fine plotting, and by noon on Thursday had left Sandy Hook 162 miles behind. The yacht by that time had a quartering wind, and was travelling fast. She struck the Gulf Stream on Thursday afternoon at 2.15 o'clock, Commodore Morss electing to take it where it came in his voyage and not keeping down until off Cape Hatteras to cross. The wind held steadily, and on Friday shifted to north-west, still being favorable, and for a while "Dervish" carried a square sail. In the twenty-four hours ending Friday noon, the yacht made 233 miles, which shows how she was travelling. In the next twenty-four hours, ending at noon on Saturday, she made 131 miles, and then Commodore Morss and his friends began to think that they might get into Hamilton on Sunday if the wind held. All Saturday afternoon the yacht did well, and by midnight she was only about fifty miles from the finishing line. The men on the watch were keeping a good lookout, and at 3.30 o'clock in the morning St. David's Head was sighted, and all hands knew that the race was nearly over. The arrival of the "Dervish" took the local yachtsmen by surprise. They had not expected that the racers would reach here so soon, and there was no stake-boat out to mark the finish. The red, green, red night signals on "Dervish" were seen in the light-house on St. David's Head, but even then it was impossible to get the judges out at the finishing line on time, but they were there almost as soon as "Dervish," and gave a rousing welcome to Commodore Morss, his guests and crew. "Dervish" was towed into Hamilton Harbor, and hundreds of craft of all sizes turned out to greet her, and the piers and shores were lined with men and women who cheered incessantly as the yacht was taken to moorings off the Royal Bermuda Yacht Club.

1894.

PROF. S. C. PRESCOTT, *Sec.*, Mass. Inst. of Technology, Boston.

F. P. McKibben has accepted a position as head of the civil engineering department at Lehigh University, South Bethlehem, Pa., and enters upon his new duties in the fall. The *Brown and*

White, the college paper at Lehigh, printed the following account of McKibben and his activities in a recent number:—

Professor Frank P. McKibben, of the Massachusetts Institute of Technology, has been appointed professor of civil engineering, in charge of the department, in place of Professor Mansfield Merriman, who has resigned after a record of twenty-eight years' service.

Professor McKibben's experience as an engineer gives assurance that the work of our great engineering school will be continued on its past high plane of efficiency. He studied at the University of Arkansas for three years before entering the Massachusetts Institute of Technology, from which institution he graduated in 1894, with the degree of B.S. in civil engineering. Since graduation he has been teaching in the department of civil engineering of the Institute, and in addition has been engaged in engineering practice, mostly in connection with the designing and construction of bridges, buildings, and various other structures. He has had experience with several bridge companies, and for two years was assistant engineer of the Boston Elevated Railway Company. In 1901 he was made assistant engineer of the Massachusetts Railroad Commission, a position which he has held since that date, and from 1902 to 1907 was librarian of the Boston Society of Civil Engineers. At present he is associate professor of civil engineering in the Institute of Technology. He is a member of the American Society of Civil Engineers, of the American Society for Testing Materials, of the American Society for the Promotion of Engineering Education, and of the Boston Society of Civil Engineers.

—R. H. Ober, who was with the class in its first year at the Institute, was recently heard from. He is connected with the Chicago, Milwaukee & St. Paul Railway Company of Washington, and is the engineer of the Columbia River Bridge. It is very pleasant to hear from the fellows in this way, and to learn of their professional work. —C. D. Pollock has been elected secretary of the Municipal Engineers of New York, also president of the Brooklyn Engineers' Club. These duties, combined with his work in charge of all paving contracts for Brooklyn, keep him from having many idle moments.—A. R. Mackay has returned to Montreal, and his address is Royal Insurance Building.—J. H. Parker is practising architecture at 20 Beacon Street, Boston.—D. C. Chaffee is also practising architecture at 600 Equitable Building, Louisville, Ky.—F. A. Schiertz is pro-

fessor of chemistry and metallurgy in the Montana School of Mines, a position for which his varied and very successful mining experience has admirably fitted him.—Two other of the architects who have recently been heard from are C. G. French, of 191 Genesee Street, Utica, N.Y., and A. S. Gottlieb, who has an office at 156 Fifth Avenue, New York.—T. O. Barnard is located at 10 Post-office Square, Boston.—One of the New York agricultural papers gave recently a very full and appreciative account of the large estate at Pinehurst, N.C., owned and operated by Tufts. The dairy industry that he has established there is a model, and has been the subject of much favorable comment all through the country.—F. Drake was heard from not long ago at Bisbee, Ariz., where he was engaged on some professional work. Drake's office is at 804 Tacoma Building, Chicago.—Two marriages of interest to '94 men have recently taken place. F. W. Lovejoy was married on Tuesday, June 18, to Miss Florence Isabel Fuller, of Springfield. They will live at Rochester, N.Y., where Lovejoy is general manager of the Kodak Park works of the Eastman Kodak Company.—N. H. Janvrin was married on Thursday, June 20, to Miss Avis Genevieve Grimes, of Franconia, N.H. Janvrin is connected with the Department of Water Supply, dealing especially with the new great water supply of Greater New York, with headquarters at Peekskill.—The class dinner was held at the Nottingham on Tuesday evening, June 4. The attendance was smaller than for several years past, but nine members of the class being present. Those attending were McKibben, Claflin, Beardsell, Spalding, Lawrence, Moore, Day, Breed, and Prescott. Notwithstanding the small attendance a pleasant hour was passed, and greetings with '96 were exchanged. At eight o'clock the diners went to Symphony Hall, where they were joined by a half-dozen other members who were not able to get to the dinner because of other engagements.—W. F. Spalding has returned to Boston as a member of the firm of Collins, Spalding & Co., 10 Post-office Square, dealers in investment securities.—H. S. Duckworth, after twelve years as chemist for the Cocheco Company at Dover, N.H., has become superintendent of the Hamilton Print Works at Lowell.—Dr. W. H. Sayward, Jr., is in charge of the Dublin Chemical and

Pathological Laboratory at Dublin, N.H., for the summer.—The secretary received a letter from G. H. Anderson, assistant superintendent of blast furnaces at the Maryland Steel Company, Sparrow's Point, Md., about the time of the class dinner. Anderson has had a very interesting career, having been for the past two years at Homestead, Pa., and previous to that in other steel centres in the United States, and often quite out of reach of the secretary.—A letter from G. N. Leiper bears the heading "Plymouth Stock Farm, Plymouth Meeting, Pa." The letter reports a very busy season in this line of experimental work.—The secretary announces with regret the death of F. H. Murkland at New Bedford on Jan. 4, 1907.—B. E. Holden has an office at 1417 Railway Exchange, Chicago.—L. T. Cutter is at present attached to the revenue cutter "Apache" at Baltimore, Md.—S. C. Prescott has recently been elected a trustee of Sanborn Seminary, a preparatory school at Kingston, N.H.

1895.

HAROLD K. BARROWS, *Acting Sec.*, 6 Beacon Street, Boston.

R. N. Wheeler has been appointed a division engineer upon the Northern Aqueduct Department of the New York Board of Additional Water Supply. His headquarters will be at 42 Market Street, Poughkeepsie, N.Y.—Miller reports change of address to 146 Franklin Street, Boston.—G. A. Cutter is at Wells, Me.—M. M. Wheeler is chief engineer of the Kentucky Midland Railroad, with headquarters at Central City, Ky.—Stock is at Chicago, 1440 Edgecomb Place, Buena Park.—W. S. Richardson is at 1605 5th Avenue, New York City.—C. F. Johnson is also in New York at 42 East 20th Street.—Dr. Fernald reports change of address to 1245 King's Highway Street, St. Louis, Mo.—Badgley is now at Seattle, Wash., P.O. Box 3.—D. P. Hart is in New York at 67 West 94th Street.—Phillips is at Chicago, 1615 Ashland Block.—Eveleth reports change of address to 120 Boylston Street, Boston.—Barrows has opened an

office at 6 Beacon Street, Boston, for practice and consultation in civil engineering, specializing along the lines of water power, water supply, and water purification. He will still give some time to the work of the United States Geological Survey, principally in the States of Maine and New York.—'95 held its annual meeting and dinner on June 4 at the American House. There were present President E. A. Tucker, Vice-President A. C. Jones, and the following members of the class: Tillinghast, Shepard, Thomas, Hurd, F. A. Bourne, and Eveleth. Owing to the few present at the dinner, it was decided to hold the class meeting at the "Pops" later in the evening, where the following men joined the class: Loring, Parker, Rhodes, Lawrence, Newell, Rockwell, and Jackson. At this meeting Hurd, Rockwell, and Thomas were appointed a nominating committee, and reported the following nominations for class officers for the ensuing year: president, F. A. Bourne; first vice-president, C. F. Eveleth; second vice-president, R. R. Lawrence; secretary and treasurer, A. D. Fuller; and they were unanimously elected to serve. The class dinner was a very successful one, and the usual amount of enthusiasm was displayed later in the evening at the Pop.—Following is a letter addressed to Dean Burton under date of May 10, 1907, from François E. Matthes.

WASHINGTON, D.C., May 10, 1907.

Thank you for your kind words of appreciation. The Bright Angel sheet was done so long ago that, in comparison with my latest work in the Yosemite Valley, it has, at least to me, a somewhat archaic look. As you probably realize, the engravers might have done better. I am at present engaged in seeing through the second Grand Canyon sheet, the Vishnu Quadrangle. The "Yosemite Special" was completed last fall, and is also in the hands of the engraver. It is a much more spectacular affair than the Grand Canyon sheets, there being exceptional diversity and contrast among the topographic forms about the Valley. Also, it is a study in rock-structure as much as in topography.

I am at present inspector of topographic surveys. It may afford you pleasure to learn that, of the three inspectors provided for in the new organization of the Topographic Branch of the United States Geological Survey, two are former pupils of yours, Mr. William M. Beaman and myself. The inspectors constitute a body of experts who act in an advisory capacity to

the section chiefs, and at the same time inspect the quality of the field-work and instruct the individual workers, in the field as well as in the office. So you see, in a way, I am teaching, after all. My particular field is the Far West, from the Rocky Mountains front to the Pacific, the country of my choice. I expect to start on my first round in a few weeks, and probably will not return East until late in fall. If I get a chance then, I shall certainly drop in at Tech once more.

1896.

EDWARD S. MANSFIELD, *Sec.*, 39 Boylston Street, Boston.

The regular annual meeting of the class was held at the Hotel Nottingham on Tuesday evening, June 4, at which the secretary and treasurer's report was read and approved and the same officers re-elected for the coming year. After the meeting the class dinner was held at the same place. The following men were present: Hedge, H. R., Hedge, W. R., Heerman, Henry, Hersey, Hewett, Knight, Lythgoe, Maclachlan, Mansfield, Rockwell, Smith, H. E., Trout, Tucker. After the dinner the men marched up to Symphony Hall, where other '96 men joined the party.—On May 25, in New York City, Myron E. Pierce was married to Miss Blanche B. Cochran, of that place. They will reside at 73 Pinckney Street, Boston.—Merrill S. Wilcox is now living at 1117 Columbus Avenue, Sandusky, Ohio.—Thomas T. Perkins wishes to be put on record as living at 5 Essex Street, Cliftondale.—Douglas H. Thomas, Jr., of the firm of Parker & Thomas, architects of Boston and Baltimore, is representing the firm at Union Trust Building, Baltimore, Md.—A. V. Shaw is superintendent of the Auburn Consolidated Gold Mining Company of Silverton, Col.—On July 2 Edward M. Bragg was married to Miss Helen E. Brooks, of Gloucester, Mass.—Word has just been received from Russell W. Porter, who is an architect in Port Clyde, Me.

1897.

JOHN A. COLLINS, Jr., *Sec.*, 67 Thornton Street, Lawrence, Mass.

The tenth anniversary of the graduation of the class was observed with much enthusiasm on the part of those who were in attendance at the various events.—At the alumni reception A. W. Jackson, whom all will remember as a star after-dinner speaker, presented the class of '07, in behalf of '97, with a night-cap and gown. This was to compensate in a way for the refusal of the Faculty to allow the graduating class to wear the conventional cap and gown. The gift made a great hit with '07. Those present were Hopkins, Burrill, Cowles, Smith, Jackson, Humphreys, and Collins.—As was stated in the circular letter, through the courtesy of C. W. Bradlee the class had the use of the Tedesco Country Club at Swampscott on Monday and Tuesday of Commencement Week. Had the weather on Monday been fine, there would doubtless have been a goodly number present at the smoker on Monday evening. Dr. Tyler, Dr. Dewey, and others of the Faculty were to have come. By the vigorous use of the telephone there were finally corralled Hopkins, Norris, Ilsley, Bradlee, Jackson, H.D., Elson, Carter, Howes, Busby, Collins, Fairbanks, and Bowen. The crowd took automobiles and rode to Ferncroft Inn, Danvers, and at ten o'clock Monday evening sat down to one of its famous fried chicken dinners. Needless to say, the evening was an enjoyable one. Returning to the Tedesco Club shortly after midnight, the majority of the men remained at the club-house, returning to Boston on Tuesday.—The class dinner on Tuesday evening at Hotel Thorndike was a great success,—in fact, the best that the class has ever had since graduation. This must be attributed to the presence of the ladies. So far as can be learned, this idea was a new one in the history of class reunions at Tech, and we can heartily recommend it to others. An excellent menu was served, and from six until nearly eight o'clock the dining-room was filled with jollity and merriment. Those who were present were: Mr. and Mrs. Fairbanks, Mr. and Mrs. Eames, Mr. and Mrs. Ilsley,

Mr. and Mrs. Boyd, Mr. and Mrs. Hopkins, Mr. and Mrs. Edmands, Mr. and Mrs. Collins, E. P. Bliss, Miss Bliss, N. C. Burrill and lady, E. R. Olin, Miss Goodwin, Wilfred Bancroft, Humphreys, Cowles, Pettee, Busby, Bradlee, Atwood, Howes, Carty, Swan, Elson, H. D. Jackson, A. W. Jackson, Norris, H. W. Smith, Taylor, Fuller. After the dinner everybody proceeded to the Pop, where '97 did her share in cheering, singing, and the practical investigation of internal lubrication. At the Pop every one was glad to see "Father" Borland, who had managed to escape from the government reservation at West Point. It was the first time he had met with the fellows since graduation. By clever work we managed to string the '97 banner from the upper balconies, where it hung for some time.—The secretary wishes to call the attention of those who have not paid the dues as yet that an assessment of $2 was called for. This may seem large, but there has been none for eight years, and the expenses will be heavy this year.—T. R. Weymouth, of Oil City, Pa., was married on June 1 to Miss Florence Lee Holtzman, of Washington, D.C. In the fall they will go to Europe, where Mrs. Weymouth will make her début in grand opera.—Klaus J. Steiner is a member of the board of directors of the Treasury Tunnel Mines Corporation, Pittsburg.—Sheldon L. Howard is president of the United States Reference and Bond Association (Inc.), 427 Drexel Building, Philadelphia.—Killam is chairman of board of selectmen, Reading, Mass.—W. O. Sawtelle is a graduate student at Harvard University.

1898.

PROF. C.-E. A. WINSLOW, *Sec.*, 157 Walnut Street, Brookline, Mass.

The class of '98, as usual, celebrated the Commencement season merrily and well. Beginning with a joyous spread at the Technology Club, the celebration passed to the class dinner at the Brunswick, and thence to a service of song with appropriate cheering and some few interstices of music at the Pop. At a business meeting it was determined that a rousing celebration should be held next year at

the decennial of the class, and that an effort should be made to bring back as many men as possible for that celebration. It was also determined that a class book should be issued of the nature of a directory, giving addresses and occupations, which should also record briefly the notable and remarkable achievements of the various members of the class. Both celebration and book were given over to the Class Committee with power to call for needed assistance. Subscriptions to the book are to be called for in advance of publication in an endeavor to do away, if possible, with all advertising in the book. Twenty-four men turned out to the dinner, and were joined later by some ten more at the Pop. Major Bigelow, the honored honorary member of the class, was with us the latter part of the evening. A telegram was sent, and three cheers were given to the absent secretary, Charles-Edward Amory Winslow, then on his wedding trip. "Pop" Coburn presided with his customary grace. Somewhere in the excitement of the evening the list of all those present disappeared, but Treat, Wing, Russell, Stevens, Curtis, Robinson, Godfrey, Dawes, Blanchard, Butcher, Clifford, Coombs, Danforth, Goodrich, Putnam, Richmond, were a part of the men present. Everybody at the dinner may be safely set down as having made one speech, but there were no formal remarks. In fact, quite the contrary. At the Pop a judicious observer could not have but remarked on the excellent coherence and power of the '98 cheering. Nine years out of college does not seem to have injured the lung capacity of the class in the least. Somewhere about eleven the final song was sung, the last cheer cheered, and '98's part in the 1907 celebration was ended.—Ulmer left the Arbuckle Company January 1 to become superintendent of the California & Hawaiian Sugar Refining Company at Crockett, Cal.—A. L. Davis is now manager of the crucible melting department at the Park Works of the Crucible Steel Company of America at Pittsburg.—Tietig and Lee have dissolved partnership. Lee is now practising at Home City, Ohio, and Tietig has an office at 2525 Observatory Road, Cincinnati.—Bragg has just informed the secretary of the birth of a daughter, Lena Ernestine, on Oct. 7, 1906.—P. A. B. Richardson is now in the office of McKim, Mead & White, 160

Fifth Avenue, New York.—Purdon is practising architecture at 8 Beacon Street, Boston.—Webster is in the office of Lowell, '94, 1128 Tremont Building, Boston.—Wooster is located at 361 Broadway, New York.—Porter sends a new address, 1613 Rodney Street, Wilmington, Del.—Twombly is now with the R. E. Dietz Company, 60 Laight Street, New York.—H. I. Lord has been made general manager of the sales department of the Detroit Lubricator Company. His address is the Detroit Club, Detroit, Mich.—Snelling was married May 2 at Trinity Church, Concord, Mass., to Miss Eleanor G. Goodwin. The Rev. Samuel Snelling officiated, and Winslow was best man.—Winslow was married, May 21, to Miss Anne F. Rogers at Trinity Church, Boston. The officiating clergy were the Rev. Alexander Mann and the Rev. W. H. Van Allen. Snelling was best man, and Gardner was one of the ushers.—Mills has been elected secretary and treasurer of the Aldine Press, with an office at 627 Witherspoon Building, Philadelphia. His home address is Audubon, N.J.—Coburn has been made secretary of the M. E. Ambursen Hydraulic Construction Company.—J. T. Robinson announces the birth of a daughter, Prudence, on January 8, 1907.—Dawes has been recently elected a director of the Worcester Electrical Contractors' Association. He has also been appointed sergeant of Company M, 5th Regiment, M. V. M.—Parker has returned to the East as advertising manager of the E. T. Burrowes Company. His address will be 490 Forest Avenue, Portland, Me.—Goldsmith has been elected superintendent of the Board of Public Works at North Andover, Mass. He announces the birth of a son, William Gleason, 2d, born Feb. 7, 1907.—Allyn's second daughter was born July 15, 1906. He has moved his New York office to 16 Exchange Place, and has opened a branch office at Waterbury Conn.—Goddard writes:—

> Twin boys arrived Dec. 1, 1906. They are now six months old, fat, and "sassy." I am still planning, in spite of this, to be around for the doings of June, 1908.

—Coombs has been appointed New England manager of the Atlantic Terra Cotta Company, the largest manufacturers of terra-cotta in

the world.—Franklin is superintending chemist with the William Campbell Wall Paper Company of Hackensack, N.J.—Thompson was made assistant professor of electro-chemistry at the May meeting of the Corporation of the Institute.—Weimer sends the following list of offices held: president Weimer Machine Works Company, president Weimer Chain and Nut Company, president Lebanon Reduction Company, president Lebanon Poultry Association, president Perseverance Fire Engine Company, and mayor of the city of Lebanon. Small wonder that he adds, "Too busy this year to get to Boston."—Lacy completed in March, the piers for the Tennessee River Bridge, a work involving the use of 11,000 cubic yards of concrete.—Tew is manager of the Consolidated Pneumatic Tool Company for Scotland, and his permanent address is 55 Waterloo Street, Glasgow.—Fiske has been appointed first reader of the First Church of Christ, Scientist, at Providence, R.I.

1899.

HERVEY J. SKINNER, *Sec.*, 93 Broad Street, Boston, Mass.

The annual dinner and meeting of the class was held at the Hotel Westminster on the evening of Commencement, June 4. The following men were present: T. W. Bailey, A. H. Brown, Corse, Eaton, Kingman, J. E. Lewis, Mork, Rickards, Sheak, Sherrill, Skinner, Tufts, and Whitney. At the business meeting preceding the dinner Mork, Sherrill, and Eaton were elected to the Advisory Council for the coming year. After the dinner the class adjourned to Symphony Hall, and joined in the usual celebration of Tech night at the Pop. At the hall the number was increased by Hamburger, Richmond, Stebbins, and Witherell.—Members of the class were easily distinguishable by the large white chrysanthemums worn by each member. These were furnished them through the courtesy of W. A. Kingman, who exercises chemical control over their manufacture.—Corse and family, of Detroit, were in Boston for about a week at Commencement time. His many friends were glad to see

him after an absence of six years. He is assistant superintendent of the Detroit Lubricator Company, and one of the few men who have made a study of brass foundry work from the chemical standpoint. Corse was recently elected vice-president of the American Brass Founders' Association, a new organization just formed in Philadelphia, and which corresponds to the American Foundrymen's Association for the iron industries.—Doctorate Disputation held Monday, May 27, 1907, at the George Washington University: Frederick Warren Grover, B.S. '99, M. I. T., M.S. 1901, Wesleyan University. Thesis, "The Simultaneous Measurement of the Capacity of Power Factor of Condensers."—Cards were recently received from A. R. Holliday announcing his association with the National Concrete Company of Indianapolis. Holliday was formerly with the Pennsylvania Railroad as engineer, maintenance of way.—Phelps was appointed assistant professor of research in chemical biology at the Institute this spring. He is the first '99 man to reach the distinction of being a member of the Faculty.—Pray was chief marshal of the Dorchester Day parade on June 8. He is a lieutenant in the Massachusetts Naval Brigade. Our other military man, Morse, of the regular army, has been in Boston recently on a leave of absence from his station at Fortress Monroe, Va.—There occurred on June 20, at All Souls' Unitarian Church, Washington, D.C., a double wedding, in which Miss Kate Tindall, daughter of Dr. William Tindall, secretary of the commissioners of the District of Columbia, became the wife of Edwin F. Samuels, while the brother of the bride was married to Miss Browning, of Washington. The event was distinguished by unusual incidental beauty of appointment and an elaborate musical program, and was followed by a reception at the home of Mr. and Mrs. Browning. Mr. and Mrs. Samuels will be at home after September 1 at Roland Park, Baltimore.—F. A. Watkins was married June 4 to Miss Elsie Langdon Crane, of Summit, N.J. The ceremony took place at the home of the bride's mother at Summit, and was attended by a brilliant assemblage from Summit and Elizabeth, the latter place being the bride's former home. Watkins is located in New York with the Telephone Sales Department of the Western Electric Com-

pany. Mr. and Mrs. Watkins will make their home in Summit, where a new house has been furnished for them.

1900.

H. E. Osgood, *Sec.*, 32–44 Pearl Street, New York, N.Y.

At the class dinner, held at the Lenox at 6 P.M., Tuesday, June 4, the following men showed up: Fitch, Sears (all the way from Mexico), Chalmers, Stearns, Kattelle, Burnham, Walworth, Wentworth, Remington, Briggs, A. B. Jennings, Osgood, and Wastcoat. After the dinner was over, the nominating committee reported the election of H. E. Osgood (II.) as secretary, Joe Draper (IX.) as vice-secretary, and Walworth, Kattelle, and Gibbs as executive committee for the coming year. Fitch, Stearns, and Briggs were appointed nominating committee for the coming year. At the Pop we were reinforced by Gibbs, Learnard, Constantine, Draper, Hapgood, Graff, and Wyman.—As stated in the class letter, the retiring secretary is now located at 100 William Street, New York City; and, as he has a chair in his office for visitors, he would be glad to have any of the fellows drop in and see him.—Witherell (XI.) was reported as being in Boston this spring. The Pennsylvania air and married life evidently agree with the doctor, as he weighs over two hundred, and looks, as one of his old chums said, "like a director in a Nipissing mining company." About a year ago he left the American Water Works and Guarantee Company to become assistant chief engineer of the Pennsylvania State Board of Health. His work in that connection has been the investigation of numerous typhoid outbreaks. His labors in that direction were eminently successful, and he was very urgently requested by many prominent men of the State to continue in office, but after a year's service resigned to return to his former company, where he is now employed as their chief engineer.—F. I. Tucker, who is a brother-in-law of H. D. Learnard, is located in the Virginia Mountains, at Big Stone Gap, where he is superintendent of coke ovens at a coal

mine. He is married, and has a little boy and girl.—Learnard is still at his same old place in Boston, 185 Devonshire Street, with the S. W. Fuller Company.—Brooks, Z. M., who came to Tech from Yale, and was in our class, is now located in Schenectady, N.Y., with the General Electric Company. He writes that he is not able to get down this year, but plans to get to Boston next year and 1909. He is one of the married men in our list.—Zeigler (II.), writes that he will certainly be on deck in 1909, and Davis, C. T., that he is living out at New Rochelle, N.Y., and is connected with the New York Central.—Perry, out in Grand Rapids, writes:—

When in Chicago about the first of March, I had the pleasure of attending the alumni dinner there, and met C. M. Leonard, E. H. Davis, A. S. Merrill, and F. D. Chase, and we made as much noise as any of the classes. In Indianapolis, a few days later, I took lunch with Charles M. Fosdick, and just yesterday Frederick C. Ayres, who was with our course for several years, came in to see me. He is now located in Detroit. It seems very pleasant to get in touch with some of the Tech boys again, and I would be very glad to get together in a class reunion some time, and compare notes with the rest of you.

—Leonard, in the "wild and woolly" Chicago, says:—

It is with a great deal of regret that I have to say that I am wifeless, hairless, childless,—in fact, have not even a good, friendly dog.

Sincerely trust that the average of the class will help out my poor showing above. Worse than that, I have to report that I am beginning to get fat.

—The ever-jolly Davis from Purdue:—

I was glad to get your May 20th circular. I have not heard from the class directly, in a dog's age. I wish I could have a part in the commencement games, but I have to work a few of my own here. One advantage, though, of being at a technical college, is that one sees congenial visitors. Professors Jackson and Lawrence were here recently for a day, and talked Tech very gratifyingly, of course.

I enclose my dollar. If you don't get the other $1.70, let me know. The class reunion must and shall be preserved! The fellows really ought to put up each year, according to your plans, and get some working capital

for the class. Apparently, they think they're at church. . . . I enclose also my statistics, which remind me so much of Neal's questions at Class Day that I innocently sacrificed decorum (but not truth) to the call of the pink sheet. I enclose, finally, my vote. It looks like another "popularity campaign" rather than a platform one, in the first ballot. The Nomination Committee did a good job. I haven't any personal news. We raise only corn and B.S.'s out here.

Last Christmas time I happened to be in Boston, and on the midnight of December 31 was enjoying a cigar on the Brunswick steps. Standing there, I heard a group of about forty loyal 1907's cheer in the New Year on the steps of Rogers. It sounded good, and felt queer, too, to think that it was the first time I had ever seen the ceremony. During Tech I lived ten miles out of Boston,—too far to join in the act,—but 1,000 miles I found was nearer. Not near enough, though, for I stayed on the Brunswick steps.

The question of class baby aroused some competition, while the question of marriage was evidently an easy one for everybody, for the answers were all either yes or else a decided no. As far as unmarried men are concerned, it was only necessary for them to answer the first question, but some of them evidently felt embarrassed, for there was lots of "crawling" done on the others. Suter on the marriage question must have been thinking of his experiences in the Philippines, for he puts it, "No, escaped so far." Keith has never had time to consider the question, while Silverman is in a class by himself,—the "not yet, but soon" class. Johnson, B. R., Hopkins, Leonard, Plummer, Emery, Jouett, Davis, E. H., Macpherson, all unmarried, have taken pains to answer the second and third questions, and Chalmers, who to the first question puts down a big NO, even thinks it necessary to add "see above" to the remaining questions, while Wyman, when it came to claiming the class baby, was evidently feazed, or he adds, "Don't see how I can." Replies received by secretary tabulated to show the salaries and married and unmarried men by courses:—

	I.	II.	III.	IV.	V.	VI.	VII.	VIII.
Graduates, '00	32	34	21	21	19	23	3	3
Replies from class members graduating '01	1		1					
	33		22					
Replies received to questions,	11	10	4	3	3	4	0	0
Married, with children	1	3	1	2	1	1	0	0
Married, without children	1	3	1	1	1	0	0	0
Total married	2	6	2	3	2	1	0	0
Not married	9	4	2	0	1	3	0	0

	IX.	X.	XI.	XII.	XIII.	Non-graduates.	Total.
Graduates, '00	5	11	4	0	9		
Replies from class members graduating '01		1			1		
		12			10		
Replies received to questions,	1	4	1	0	3	10 =	54
Married, with children	0	1	0	0	1	4 =	15
Married, without children	0	0	0	0	0	4 =	11
Total married	0	1	0	0	1	8	26
Not married	1	3	1	0	2	2	28

SALARIES

	I.	II.	III.	IV.	V.	VI.	VII.
A	0	1	0	0	0	0	0
B	2	0	0	1	0	0	0
C	2	3	1	2	0	3	0
D	3	3	2	0	1	1	0
E	1	0	0	1	1	0	0
Did not answer	3	3	1	0	0	0	0

	VIII.	IX.	X.	XI.	XII.	XIII.	Non-graduates.
A	0	0	0	0	0	0	1
B	0	1	0	0	0	1	3
C	0	0	1	0	0	1	2
D	0	0	2	0	0	0	2
E	0	0	0	0	0	0	1
Did not answer	0	0	1	1	0	1	1

	SALARIES					
	A 0 to 1,000.	*B* 1,000 to 1,500.	*C* 1,500 to 2,000.	*D* 2,000 to 3,900.	*E* 4,000 and over.	*Did not answer.*
Total number . . .	2	8	15	14	4	11
Married	0	3	8	9	3	2
Not married . . .	2	5	7	5	1	9
Graduates	1	5	13	12	3	10
Non-graduates . .	1	3	2	2	1	1

The class baby contest stands as follows at the present time:—

Non-graduate Wolcott Remington. Boy. Born Nov. 25, 1897.
Graduate Carleton Ellis. Girl. Born Sept. 26, 1902.
Graduate George E. Russell. Boy. Born Oct. 6, 1902.
Graduate John F. Wentworth. Boy. Born

The class as a whole made a very poor showing as far as the *number* of replies was concerned, but out of sixty-one replies only three failed to enclose $1 for dues. Very nearly four hundred letters were sent out, and the added expense of letter postage should have brought in more results, because this meant that every letter would be forwarded to the party intended, provided the address was wrong. There are many who will see this magazine who have not yet sent in their dues, and it is hoped that they will not need a further reminder.

1901.

R. H. Stearns, *Sec.*, 15 Beacon Street, Boston, Mass.

Fourteen loyal 1901 men and one guest gathered around a circular table at the American House on Saturday evening, June 1, to review the past and adjust the future of the "Great Class of 1901." President Campbell presided, and seated round the table were Rowe, Scully, Brush, Freeman, Skene, Farnham, Williams, Putnam, Pepperell, McGann, Monaghan, Clapp, and the secretary. While many were absent from the roll-call, few were forgotten; and during the dinner we brought the absentees back one by one, and recounted

what we knew of their deeds and whereabouts. The dinner finished, the business meeting was called. The treasurer's report showed the class to be firmly on its feet again. The ballot for officers resulted in the election of Allan Winter Rowe, president; Frederic W. Freeman, vice-president; and Ralph H. Stearns to continue as secretary-treasurer. Following the election, the secretary was called upon for some class statistics, a digest of which is printed below, and they were received with interest. The smoke talk, so to speak, was opened by Brush, who gave us a few sidelights on the management of street railways. Rowe followed as the principal speaker of the evening with a talk on German student life. Rowe had not addressed a 1901 class meeting for five or six years, and it was like getting back home for him. With illumined detail he explained how he had steered through the devious courses of the German university without running aground on German etiquette, on the one hand, or German arrogance, on the other, and how he had finally weathered a trying oral examination and come into port with a Ph.D., while a confidant companion took a lemon instead. Scully then unfolded his career leading up to his partnership in the firm of J. T. Scully & Co. Skene (XIII.) told of his work in yacht designing, his publication of a book on yacht design and construction, and his present business as a constructor of power boats and yachts. Then the rest of us told of our doings to date till 11 o'clock sounded, and we adjourned with a most pleasant recollection of our tenth annual dinner.—Recent good fortune to members of the class includes the marriage of Edward Seaver, Jr., to Miss Grace Ambrose Whitmore, of West Newton, on June 10; of George A. Hall to Miss Faith Pomeroy, on June 4; and the engagement of A. F. Sulzer to Miss Glyder Roberts, of Rochester, N.Y.—A. W. Rowe sailed again for Europe on June 25. Apparently, he has the habit.—Following is a compilation of the information at hand about '01 men:—

Number of active members	289
Number of deaths during past year	1
Number of married men	96

or about 60 per cent. of those about whom the secretary has information.

Number of children reported	43
Class average, for week's work	53 hours.
Maximum average for one man	84 hours.
Maximum income from professional work	$18,000*
Minimum income from professional work	$1,000
Average income from professional work	$2,150

AVERAGE INCOME

By Courses.		*By Geographical Location.*	
Mining Engineering	$3,150	New England States	$1,730
Chemistry and Chem. Eng.	2,675	Middle Atlantic States	2,400
Naval Architecture	2,500	Central and Southern States,	2,400
Electrical Engineering	2,200	Western States	2,670
Civil and Sanitary Eng.	2,100	Average for 63 men, 1907	2,150
Biology and General Studies,	1,800	Average for 73 men, 1906	1,850
Mechanical Eng.	1,750		
Architecture	1,650		

The secretary has removed from the mailing list the names of a number of former students who had slight or no connection with the class, and who have shown absolutely no interest in class affairs. If such men wish to be reinstated at any time, they can do so by writing to the secretary to that effect.

HALIFAX, N.S., May 9 (Special).—Frederick H. Sexton, professor of mining and metallurgy at Dalhousie University, Halifax, was to-day appointed director of technical education for Nova Scotia. This is a position created by act of legislation passed last session establishing a system of technical education in this province, embracing technical college at Halifax, local technical schools in industrial centres, and mining schools throughout the provinces. Mr. Sexton is given charge of this work. He is a graduate of the Massachusetts Institute of Technology.—*Transcript*, May 9, 1907.

* This income excluded from all averages. Another income of $100,000, derived from enterprises in which a large amount was invested, not included.

1902.

F. H. HUNTER, *Sec.*, West Roxbury, Mass.

The fifth reunion of the class of 1902 has gone into the past, but the past got a severe jolt when it went. The fun began on Monday, June 3, when a crowd of choice spirits dined at the Lombardy Inn, and then attended the opening performance of Richard Carle's new opera, "The Hurdy Gurdy Girl." The play contained an unusual number of acts, also, therefore, several "between-the-acts," all of which was refreshing. However, all the men were on deck the next day. The excursion which was scheduled for Tuesday was called off, owing to the small number of responses, but the men who had come from a distance and those who could take the day off got together at the Highland Club, West Roxbury, and filled the day with various sports. Although no formal matches were played, the honors at tennis went to Fitch, while Stillings was high man on the bowling alley and the pool table. The annual dinner was pulled off in the Dutch Room of the Copley Square Hotel. The attendance at the dinner and also the average salary of the men there showed a good gain over last year. A message of regret was received from McCarthy, and notes from Charlie and Mrs. Kellogg were read in acknowledgment of the present sent at the time of their recent marriage. The secretary was instructed to send replies. C. B. Allen was the one who had come farthest to be present, and received a stein, suitably inscribed, as a souvenir. Greetings were exchanged with several classes who were dining under the same roof, but the feature of the evening was a visit from '92, who marched in to give us good advice and good cheers. '02 returned the good cheer a little later by marching up to see '92 with Charlie Mixter at the head bearing a bowl of punch for the thirsty. At the Pop, as ever, '02 was on deck, and let the fact be known with serpentines, confetti, and cheers. An attempt to suspend a big banner above the hall was "flagged" by the management, but in spite of this the boys who wore the wooden buttons for their

"Wooden Reunion" were much in evidence. Among those on deck for all or some of the functions were: C. B. Allen, Ames, Butler, Boardman, Ned Baker, Collier, Crowell, A. W., Currey, H. H. Davis, Dickson, Eames, Everett, Fitch, Fisher, Fletcher, Fitzgerald, Steve Gardner, Greeley, Hooker, Hunter, Lewis, Mahar, Millar, Marvin, Mathesius, Charlie Mixter, Morrill, Nickerson, Patch, Ritchie, Stover, Stillings, C. A. Sawyer, Jr., Starr, Towne, Thurston, Whittet, Westcott. At the business meeting the constitution was amended to increase the number of vice-presidents to three without rank. This was done that the men in New York and Chicago might be represented on the board. The following officers were elected: president, C. A. Sawyer, Jr.; vice-presidents, Hooker, Lockett, Place. As assistant secretary, Nickerson was re-elected with a whoop and a vote of thanks. Apart from the reunion much class news has come in. June is the month of weddings, but '02 started in May. A. C. Clapp was married on the 30th to Miss Myrtle Campbell, of Little Silver, N.J.—Mayo on the 11th of June married Miss Julia Middleton Skillman, of Washington, D.C.—On June 3d George married Miss Demetria Simmons. —Hamblet on the 26th married Marcia Leavitt Coburn, at Carthage, Me.—Ritchie, who was married on the 22nd of June to Miss Helen Louise Hurd, completes the list as far as reports are yet in. The future promises more news of the same sort, for Greeley is engaged to Miss Margaret Ellen Houghton, of Lexington, and the following is clipped from the April 6 issue of the Boston *Transcript:*

> Mr. and Mrs. Edward G. Bennett, of Boston, announce the engagement of their daughter, Grace Frances, to Arthur Harold Sawyer, of Delaware, Mich.

Next to be reported are the additions to the Junior Battalion of the class. Karleen Alden Nash arrived March 25.—On April 11 Reed Whitney came to the home of Mr. and Mrs. Philip R. Whitney at Bala, Pa., and on June 7 Esther Caryl Fruit, of Wheaton, Ill., became a member of the class.—Several men not reported for some time are now brought up to date on our rolls. Mague's address is West Newton, Mass., while Coburn can be reached at 76 Summer

Street, Malden, Mass.—Horace Muzzy is with Walter Appleton, architect, 15 Exchange Street, Boston; and Mathesius is with C. Howard Greenley, 12 West 40th Street, New York.—Miss Bates's address is 4 Toledo Avenue, Elmhurst, L.I.—J. Murray Walker is with the Massachusetts Correspondence Schools, 194 Boylston Street, Boston.—Eager has returned to Fredericktown, Mo., with the North American Lead Company.—Fitch has taken a position with the Dennison Manufacturing Company at South Framingham, Mass.—Leonard is with the General Electric Company at West Lynn, Mass.—Mendenhall is now with the Ely Light and Power Company, Ely, Nev.—Lockett is at present at Crawfordsville, Ind., where he is taking charge of the construction of a large power house for the Electric Railway. He returns to his Chicago headquarters, 1517 Monadnock Building, some time next month.—W. C. Taylor is now with the Detroit River Tunnel Company at Detroit.—Eames is with the Cell Drier Machine Company, 84 State Street, Boston. He is living at 47 Crescent Street, Swampscott, Mass.—'02 has representatives in medicine and law, but the following from the Newburyport *Herald* reports our first member to enter the ministry:—

REV. PHILIP C. PEARSON

Ordained to the Diaconate in the Episcopal Church

On Trinity Sunday, May 26, in the Church of Zion and St. Timothy, New York City, Philip Coombs Pearson was ordained to the diaconate of the Episcopal Church by Bishop Greer, of New York. Mr. Pearson is the son of Mr. and Mrs. John F. Pearson, of this city, a graduate of our high school and of the Massachusetts Institute of Technology, Boston. For two years he was with the American Smelting and Refining Company, Perth Amboy, N.J. In 1904 he entered the General Theological Seminary, completing the third-year course there. He graduated on the 15th of May. Rev. Mr. Pearson has been elected to a fellowship by the faculty of the seminary, which will enable him to pursue his studies for five years at the seminary and Columbia University or abroad if he so desires. In addition to this post-graduate work Mr. Pearson is to be one of the assistants to the Rev. Dr. Manning at St. Agnes Chapel, Trinity Parish, New York City, beginning his work there in the fall.

The good wishes of his classmates will go with Pearson in his chosen work.—W. D. Crowell recently passed the entrance examinations for the École des Beaux-Arts at Paris.—H. C. Bartlett and J. Mc.-F. Baker are spending a year in travel and the study of architecture in Europe. They were last reported from Pæstum, Italy.—Fletcher is still with the New Haven R.R., but has been transferred to Somerset, Mass.—Galaher has been sent by Stone & Webster to Dallas, Tex.—Hollis is now at Randolph, Vt.—Belcher is engaged on the Sewage Purification Works, Washington, Pa.—Shedd is still with Purdy & Henderson. Most of his time is spent at their Boston office, but when at their New York office a short time since he helped in designing the steel for the Hudson Companies Terminal, which will be when erected the largest office building in the world. —William Waterman is with Hegeler Bros., Danville, Ill. The firm is engaged in zinc smelting and making sulphuric acid.—A. A. Jackson is established as a consulting chemist at 672 East 43d Street, Chicago.—Montgomery is now with the Newark Fire Insurance Exchange, 701 Union Building, Newark, N.J.—Pendill is now with the General Electric Company at their Schenectady works.—Ames has returned to the East, and is now superintendent for the Parker Manufacturing Company of Roxbury, makers of recording thermometers and other scientific instruments.—In the last issue we reported that Pember had won a place in the final competition for the New York State Library Building at Albany, being one of ten selected from a large field of competitors and receiving $500 as a prize and a payment of $1,000 for further plans. We can now report that in the final competition Pember won third place, defeating some of the best-known architects in this country and receiving an additional prize of $1,000. While Pember was entered in association with Martin C. Miller, of Buffalo, it is no disparagement of Mr. Miller to state that the credit for the place won rests almost entirely with our classmate.—'02 also deserves further mention in this architectural competition, as Rayne Adams, working temporarily for Mr. Hornbostel, the winner, assisted in developing the winning design.—The secretary has another move to report, but now hopes to stay put for many moons to come. He left the Unaka Company

of Johnson City, Tenn., on April 1, came North, and is now located with the L. P. Soule & Son Company, building contractors of 166 Devonshire Street, Boston. His address for class correspondence is 75 Park Street, West Roxbury, Mass.—At the Technology Club of New York a series of class reunions has been held during the past season. A prize was offered for the best class yell. Of course '02 won, with Place, Annett, Hammond, Brainerd, and Philbrick behind the yell.—Once again we have to chronicle the death of one of our members: W. H. M. Latshaw died at his home in Pueblo, Col., on May 5. While Latshaw had not been in robust health for some time, he had seemed to gain by a trip to Arizona, and the end came suddenly from pneumonia.—A catalogue of the class is to be issued as early as possible. Circulars for information are in preparation, and should reach the members of the class soon after this report. Any member not receiving his blank by September 1 will kindly report that fact to the secretary. An early and complete reply from each member will assist very much in the work of preparing the book.

1903.

WALTER H. ADAMS, *Sec.*, Polytechnic Institute, Brooklyn, N.Y.

The annual dinner at the Brunswick Hotel in Boston was the most successful that the class has held since graduation. Eighteen men were present, and started the dinner with a rousing '03 cheer. The following business was transacted: The present officers are to continue in office until mail elections are held next January. A committee, consisting of Nutter, Newman, and Olmstead, was appointed to draw up a new constitution. During the dinner cheers were exchanged with '93 and '98. Loughlin and King enlivened the dinner with music and songs. After the dinner every one went to the Pops, and there disposed of the remainder of his voice. The following men were present: Aldrich, Atwood, Bridges, M. H. Clark, F. W. Davis, Fales, Hoxie, King, Loughlin, Newman, Nutter,

Olmstead, Ricker, Scholtes, Stiles, Swett, Valiquet, and Yerxa.—The following changes of address and occupation have been received since the first of the year: R. M. Field, 42 Broadway, New York; J. L. Lyon, 834 E. 48th Street, Chicago, Ill.; G. M. Macdonald, 40 Cathcart Street, Montreal, Canada; J. A. Mears, 130 Maiden Lane, New York, is general manager for the Cosio Cigar Company; Merrill may be addressed 120 Hudson Street, New York, care H. A. Metz & Co.; Millard, care Minneapolis Gas Light Company, Minneapolis, Minn., is engineer on construction with Riter-Conley Manufacturing Company; Myers, 317 Andrew Street, Rochester, N.Y., is engaged in the manufacture of novelties; Newman, 175 Mt. Auburn Street, Cambridge, Mass., is assistant engineer on water-works construction with William Wheeler, consulting engineer, of Boston; Nields, The Monterey, Cleveland, Ohio, is secretary of the Reinforced Concrete Construction Company; Palmer, Hagerstown, Md., is superintendent of the Hagerstown factory of the Pope Manufacturing Company; Parker, South Milwaukee, Wis.; S. G. Porter, Lamar, Col., is chief engineer for the Arkansas Valley Sugar Beet and Irrigated Land Company; Regan, 49 Winchester Street, Boston, is a draughtsman with the Boston Sewer Department; A. P. Rice, 34 Chestnut Street, Everett, Mass., is inspector on dredging and construction, Massachusetts Harbor and Land Commission; P. B. Rice, 1317 9th Street, Altoona, Pa., is electrical engineer in the motive power department, Pennsylvania Railroad; Ricker, 92 First Street, East Cambridge, Mass.; Sears, 31 Milk Street, Boston, Mass.; Sibbett, 366 Wilbur Avenue, Columbus, Ohio, is draughtsman with the Jeffrey Manufacturing Company; C. J. Smith, 324 East Jefferson Street, Los Angeles, Cal.; Taylor, Milwaukee, Wis., care Cutler-Hammer Manufacturing Company; Underwood, 2112 Eoff Street, Wheeling, W. Va., is superintendent of Blast Furnace, Riverside Department National Tube Company.

1904.

CURRIER LANG, *Sec.*, Michigan Central Depot, Detroit, Mich.

The Mexican engineering field has been heard from since the last issue of the REVIEW, through two members of our class.—Waldron P. Schumacher, speaks for the mining end of it, in part as follows:—

After my return to Boston, I wrote to Potter, '98, and he gave me a job here in Mexico at a place called Matehuala. I stayed in Matehuala for thirteen months, when I heard of my present position, and applied for it, with the result that I am now located in this place (Sierra Mojada) as engineer for a Mexican mining company.

From a business point of view, I like Mexico, and I think there are ten chances to every one that a man would have in the States. On the other hand, in coming to this country, a man gives up everything which at home we consider as pleasures. This little town is out in the desert a hundred miles from anywhere, and there are only about ten Americans in the place. The grub is fierce, and water scarce. For ten months in the year not a drop of rain falls. I like the company I am working for, and they make things as agreeable as possible.

—H. G. Chapin speaks for the civil end of it:—

I came to Mexico in January, 1906, to start in as topographer and draughtsman. From January, 1906, to April, 1906, I was on a relocation between Colima and Manzanillo, part of the new line constructing to connect Mexico City with the west coast. In April, '06, we were sent on a preliminary and location survey of 125 kilometers north-west of Colima. Nov. 1, 1906, I was transferred to construction west of Colima, and stayed three months until I got the fever, and had to pull out. Since then I have been working on a contract I took to survey a mountain of about 80,000 acres of timber land. I just finished the field-work yesterday. I am now looking forward to getting back to God's country again where one doesn't have to fight mosquitoes, fleas, alicrons, etc. I expect to be in old Beantown again about June 1.

—The fact that '04 fellows have a habit of getting together whenever the opportunity offers is shown by the following information gath-

ered from letters from A. W. Bee and Halsey French. French writes:—

As you know, Kemper, Thurlow, Holbrook, and myself are all in this office [Board of Water Supply, city of New York], each one of us more or less contented, principally less. George H. Shaw, who was once a '04 man, is here also. A few days ago, at a civil service examination, we saw Hill, Biggi, E. F. Smith, and Wilson, '04 (the slender one). Biggi came down from Albany, Hill from Kingston, and Wilson from Boston.

—Bee is in Cincinnati on concrete building construction, Stetson is in Cincinnati for a few months on construction for the Pennsylvania Lines, and a short time ago Weymouth came down to visit them. They showed him the town, and, according to Bee's statement written a week later, neither they nor the town had fully recovered at that time. It is easy to imagine the disjointed condition of that town after those three heavy sports got through with it. Bee is engaged to be married to Miss Maud E. Beder, of Chicago.—H. W. Goddard writes:—

I left Pittsburg a little over a year ago, and am now in Hartford, Conn., in charge of the construction of a four-story, reinforced concrete office building. I expect to complete this job in about a month. . . .

—E. W. Charles is now with the Allis Chalmers Company in the steam turbine department. He likes Milwaukee in spite of its beer renown.—Freeman Cobb is in Toronto, Canada, with the Chapman Double Ball Bearing Company.—W. De Witt Vosbury is with Professor Meade, consulting engineer at Madison, Wis.—The secretary has since the last issue of the REVIEW received an invitation to the wedding of William Hosmer Eager and Miss Helen Lucy Hiscock at Syracuse, N.Y., April 22, 1907, but on account of the distance was not able to represent the class in person nor give the groom away.—The engagement was announced in Washington, in April, by Lieutenant-colonel and Mrs. John S. Loud, U.S.A., retired, of their daughter, Miss Dolne Loud, to Francis F. Longley, of West Point and Technology, '04.—The following information concerning the gentler part of our class is of interest. Miss Ropes

was married Nov. 12, 1906, to Mr. S. P. Williams, Harvard, '97, and is living in Winchester. Between graduation and her marriage Miss Ropes was with Warren H. Manning, the prominent landscape architect, and during part of the time was at Norfolk, Va., as his personal representative in matters relating to the laying out of the Jamestown Exposition grounds.—Miss Marion Coffin, a special with our class, has set up for herself as landscape architect in New York, and has exhibited at several of the recent shows, among them the Architectural League of New York and the T Square Club of Philadelphia.

1905.

GROSVENOR D'W. MARCY, *Sec.*, 246 Summer Street, Boston.

1905 began to celebrate her second anniversary with a class punch, held at the Technology Club, Tuesday afternoon, June 4. The men commenced to gather about four o'clock, and a flow of '05 spirit began that lasted far into the night. At six o'clock the crowd started for the Copley Square Hotel, where dinner was held, as last year, with '04. There were forty '05 men present, some returning from far countries. The dinner was very informal, there being few fireworks, but much heart-to-heart getting together. President Pritchett was with us, and brought the loving cup presented to him by '04. It was filled and passed from man to man, each rising and giving his address, and stating whether married or single. The blushes of '04's Benedicts were beautiful to see. '05's generally hopeful tune was "not yet, but soon." Bob Lord and Harry Wentworth announced their resignations from the offices of secretary and vice-secretary, respectively. Bob is going to Portland, Me., as superintendent with the Casco Tanning Company. The following team was elected to take their places: G. D'W. Marcy, secretary; R. M. Folsom, vice-secretary; and G. B. Perkins, assistant vice-secretary. Resolutions of appreciation and regret were extended to Lord and Wentworth. After the dinner the crowd marched over to Symphony Hall, where we were met with reinforcements. The Pop was a

great success, as always. There was a little excitement when Fletcher, '06, having had one lemonade, thought it was the Boylston Street flag riot he was at, and started for the '05 banner from force of habit.—J. H. Flynn was back on leave of absence from Panama. He is chief draughtsman in the Mechanical Division. He reports that the fellows are all doing well down there, and get together every little while at the University Club or Hotel Tivoli, and have a Tech night.—W. P. Bixby has had charge of tests on which buying of coal is based. Bixby had a couple of weeks of fever, but is all right now.—W. G. Eichler arrived at Panama about January 1. He is drafting repair parts on rock drills.—C. E. Gage is assistant to the master mechanic at Empire, and is building the new repair shops there.—Charles W. Johnston has added unto himself an address that reads as follows: "Care of the Veta Colorado Mining and Smelting Company, Minas Nuevas, Parral, Chihuahua, Mexico." He says:—

> Since the last issue of the REVIEW I have moved my hat rack one mile nearer the United States. That is, I am one mile nearer home, having changed to the mine next north of the Veta Grande, where I have been for the last nine months. Bill Motter, Roy Allen, and Eugene Burton are all within a few miles of me. We get together frequently. I left Parral May 26 for a trip home to Boston, returning to Mexico July first.

Charlie is not going back alone. He was married on June 19 to Miss Sarah Abbott, of Roxbury. Roy Allen came up from Mexico on a flying visit to "stand up with him." The couple were started off with a good '05 cheer by the fellows fortunate enough to be at the reception.—R. S. Gifford was awarded a Savage Fellowship in chemistry this year, and sails in July for Germany, where he will study for a Ph.D.—Miss Ida Ryan, who won second prize in the competition for the Rotch Travelling Scholarship in Architecture last year, distinguished herself and added to the glory of '05 by winning the scholarship itself this year.—Bob Morse is making plans to establish a commission house in Mexico City for the sale of mining machinery. The concern will be known as the International Machinery and Engineering Company, and will also be interested in

power plant development.—Seymour Rivitz, *ex* '05, is a civil engineer in Spokane, Wash.—P. G. Darling is with the Ashcroft Manufacturing Company, Bridgeport, Conn. At present he is on a trip from New York to New Orleans by boat, and will return on locomotives, testing injectors and other apparatus manufactured by this company.—Jules V. Barnd is selling mining properties in New York, and also personally operating properties in Utah and Nevada.—S. B. Littleton, *ex* '05, is engaged in farming in Washington.—Roger P. Stebbins is with the Electric Boat Company of Quincy, which has just completed the United States submarine "Octopus," which made such an excellent record in the recent trials at Newport.—Arthur J. Manson is in New York for the Westinghouse Electric & Manufacturing Company, in connection with the electric locomotives for the New York Central Railroad.—Ros Davis and Bill Wilcox are working together in the factory improvement department of the Singer Manufacturing Company of Newark, N.J.—Bill Motter and Eugene Burton are at the same mine in San Diego, Mexico. Bill is now assistant superintendent, and Gene is engineer, and also in charge of the magnetic zinc separator plant.—W. L. Spalding is sitting up nights with a sixty per cent. increase in the electrolytic refinery of the Buffalo Smelting Works.—Joe Daniels has a position for the summer with the Dominion Coal Company at his old stamping grounds, Glace Bay, N.S. He expects to return to Lehigh University as instructor in the fall.—E. M. Coffin reports meeting Harry Upham, of Glee Club and Tech Show fame, travelling in New Hampshire for the Simplex Piano Company.—E. L. Hill is assistant mechanical engineer with the American Steel and Wire Company of Worcester.—A. L. Whitmarsh is assistant to the city engineer of Lamar, Col.—R. D. Farrington is studying law at Harvard Law School.—Arthur E. Russell is in the testing laboratory at the Watertown Arsenal.—F. W. Goldthwait is with the Boston office of the Lanston Monotype Machine Company, in the installation and maintenance department.—C. Saville is with the engineering department of the Massachusetts State Board of Health.—LeBaron Turner is with the United States Wind Engine and Pump Company at Batavia, Ill.—S. A. Greeley is with Hering & Fuller, sanitary

engineers, New York.—H. Atwood has returned to the Institute to complete his course in electrical engineering.—R. F. Gale returned to the Institute last fall, and received his degree this June with '07. —A. H. Abbott returned and got his degree in Course VI. this year, after two years' leave of absence spent in practical work with the General Electric Company at Lynn. He is going to Pittsfield to take a position in the transformer department of the same company. —Six men have left the instructing staff at the Institute to accept positions as follows: W. Tufts and C. T. Humphreys are with the McClintic Marshall Construction Company of Pittsburg. Tufts' address is 21 Park Row, New York City.—F. C. Starr has joined the instructing staff of George Washington University at Washington, D.C.—R. W. McLean is with the Carver Cotton Gin Company of Bridgewater.—A. L. Smith is with the Bixby Blacking Company of New York, N.Y.—Macintire is with the National Lead Company of Brooklyn.—F. J. Chesterman has recently become connected with the New York Telephone Company. There is a rumor that he is to be married in October.—A. D. Maclachlan is looking for Walter L. Whittemore.—Edwin B. Snow writes that he has no news, but is about to announce his engagement, and thinks this is a good time to do so. It's news to us, Eddie.—O. C. Merrill was married last October to Miss Elizabeth V. Watson, and is now assistant hydraulic engineer with the O. Rand Company of Berkeley, Cal.—Charles E. Smart was married June 12 to Miss Effie J. Cook, of Greenfield, Mass. Charlie is now assistant superintendent of the A. J. Smart Manufacturing Company of Greenfield.—Percy A. Goodale was married to Miss Hope Leonard, of New Bedford, on June 15.— Walter Bent announces his engagement to Miss Bessie Brackett, of Rochester, N.Y. He is still with the Eastman Kodak Company, and writes that Jimmy Payne has left them, and is now working for a new cement concern at Catskill, N.Y.—H. R. Robbins has severed his connection with the New Hampshire Concentrated Milk Co., and is now engaged as inspector on the Pennsylvania tunnels under the East River. He resides at 220 E. 36th St., Suite 6, New York, N.Y.—The secretary wishes to state that the mantle dropped on him at so nearly the same time as the

call for REVIEW notes that he did not have time to collect much information about the fellows. He also wishes to urge everybody, whenever an item occurs to them that might be of interest, to confide said item to a postal card, and post it to him. Thus would this compilation become an automatic pastime, which is what he wants.

1906.

THOMAS L. HINCKLEY, *Sec.*, 745 Osceola Avenue, St. Paul, Minn.
ANGELO T. HEYWOOD, *Res. Sec.*, Mass. Inst. of Tech., Boston, Mass.

The July notes for our class are summed up for our convenience in reference in the following

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IV. Account of Reunion and Celebrations.
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Class Dinner at Hotel Plaza, Tuesday, Commencement Day, at 5.45 P.M.
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V. General Report on Finance of Reunion.
VI. Report of Committee on Nominations for Class Officers.
VII. Other Reunions.
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VIII. Personal Notes and Replies to "additional information about self or classmate."
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XI. On the Part of the Secretaries.
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In Memoriam.

II. The following letter was mailed to all members of the class May 14, 1907:—

CLASS OF 1906
MASSACHUSETTS INSTITUTE OF TECHNOLOGY

To the members of the Class of 1906:

Herewith are sent you complete announcements concerning our First Annual Reunion and Commencement Celebration, and details concerning class organization and other business. The arrangements are in charge of a General Committee, as follows:—

Chairman	Angelo T. Heywood (III.)
Constitution	Joseph T. Lawton, Jr. (II.) Maxwell A. Coe (II.) Edward B. Rowe (VIII.)
Program	Joseph T. Lawton, Jr. (II.)
Class Dinner	Herbert A. Terrell (II.)
Hospitality	Ralph R. Patch (XI.)
Publicity and Correspondence	Herbert S. Whiting (VI.)

Your careful attention is asked.

Maxwell A. Coe, *President.*
Angelo T. Heywood, *Resident Secretary.*
For the Class.

The FIRST ANNUAL REUNION of the Class of 1906, M. I. T., will be held TUESDAY, JUNE 4, 1907. During the entire day the Alumni Association and the Association of Class Secretaries will maintain open house, and a SPREAD will be held at the Technology Club for all Tech alumni. The club-house will be the headquarters for the class, and a Reception Committee will be on hand to greet the members of the class. Material for registration will be provided and all questions answered.

At 5.45 P.M. (*sharp*) the REUNION AND DINNER will be held at the HOTEL PLAZA, COLUMBUS AVENUE, Boston, Mass. Price per plate, $1.25. The guests of the evening will be: Mr. James P. Munroe, of the Corporation; Dean Burton; and Bursar Rand.

After the dinner the class will adjourn in a body to the POPS, full particulars of which are being sent you by the Pops Committee of the Alumni Association and Association of Class Secretaries. It is necessary that an early reply be sent to them, in order that ample accommodations may be provided for the grouping of such a large number as will represent our class.

It is the custom for the distant as well as the near-by members of the classes to make special effort to return to Boston at this time to meet old friends again. You are urged to join in the celebrations. "Times change, but Friendships never."

Concerning the ORGANIZATION OF THE CLASS for its alumni life, the following is quoted from the '06 Class Notes in the January, 1907, number of the REVIEW:—

"It may have been remarked that the [present] constitution, in so far as it applies to the election of officers, has been allowed to lapse. This was done in order that the machinery of the class after graduation might be gotten fairly under way before a change was made in organization.

"To be loyal to the Institute, we must keep our class organization strong. To have a strong class organization requires the interest of the members. Members take interest only when something is being done by the class. No one cares to be busy unless there is some real work in sight and a definite, practical object to be gained. It is therefore evident that the problem of organization brings with it the question of what particular life-work our class proposes to take up for its alumni career. Before any change is made, the matter is open for general discussion. The Secretaries wish that the members would write to them, and state their opinions on the subject."

In reply to this request, several men offered suggestions, which, however, were more in regard to the method of organizing the class than in regard to any definite object which we shall as a class undertake, and which shall result in direct and substantial benefit to the Institute.

In regard to class *organization* a CONSTITUTION has been prepared, a copy of which is enclosed for your consideration. Provision is made on the Reply Sheet for the casting of your vote in regard to the acceptance of this Constitution. The results of this vote will be announced at the dinner, and later by mail to those who do not attend the dinner.

In regard to the *definite object*, it is proposed that this matter be taken up further as soon as the class organization is completed, and that a final decision be reached as soon as possible. The proposition will then be put before the whole class again for final approval.

The following is a summary of the accounts of Class Day Committee:—

Receipts

Subscriptions and invitations	$1,249.25
Dinner	409.50
Senior Dance	164.00
Miscellaneous	2.05
	$1,824.80

Expenditures

Class Treasurer's Account	$122.96
Dance Invitations	30.88
Orchestra	40.00
Florist	185.00
Class Day Spread	250.00
Class Dinner	369.00
Menus	31.50
Decorations (Spread)	30.00
Fountain (the Class Gift)	175.00
Miscellaneous	276.21
Balance	314.25
	$1,824.80

The bill for the fountain was not paid until March, 1907, and the payment of the bill cut down the balance.

Of this $314.25, turned into the Class Treasury, $39.25 was paid to the Class Secretaries and has been expended in sending out the cards for information, completing the Card Catalogue of the Class, and for correspondence. The balance of $275 remains in the Class Treasury, and is on deposit at the Bursar's office.

Two suggestions have been offered for the disposition of this sum; namely, that it be used:—

(1) As a permanent gift to Bursar Rand's Scholarship Fund for needy students, or

(2) To form the nucleus of a fund to be raised by the class, the amount of which shall be such that the annual interest yielded will be sufficient to defray the current expenses of the class. The object of this is to abolish in time class dues, and, when said fund is no longer necessary for such use, the same shall be given to a Scholarship Fund of the Institute.

It is desired that each member of the class express his preference in his reply to this letter.

Up to the present, out of a total of 761 members on the roll of the class, over 500 have been heard from. In order that the roll may be completed and corrected to date, it is requested that pains be taken in filling out the accompanying Reply Sheet, particularly in regard to information about any classmate who you think may not be enrolled on the class lists. Notes may be added for publication in the REVIEW.

As is the usual custom, it is proposed to announce at the dinner the average SALARY of the members of the class. For this purpose we are enclosing a slip upon which your salary is to be written, which slip is to be returned in the envelope, addressed to Dean Burton. The Dean has consented to receive these sealed envelopes and to shuffle them so that it will be impossible to ascertain to which individual the salary upon any slip may belong. It is hoped that every one will include this data in his reply, as an *average* figure is desired.

Inasmuch as a Constitution to govern us as alumni is yet to be adopted, it is considered not

advisable to levy any regular ASSESSMENTS. It is, however, necessary to have money to send out these notices and carry on the work of the class, and a voluntary contribution is hereby requested. It is thought that the amount of the average contribution will be $1. We hope that those who do not feel able to give this amount will contribute something.

Round Robins are reported to be in circulation among the members of different courses. Courses I., III., and VI. are those which have been heard from up to the present time. The secretaries would like to be notified of any others that are in circulation, and also to receive detailed information on the above-mentioned in regard to the number of letters received, etc

The ALUMNI RECEPTION will be held on FRIDAY, MAY 31, 1907, at 8 P.M., in ENGINEERING B, on Trinity Place. Admission, $1. Refreshments will be served. It is hoped that our class will be well represented at this reception to '07, as we are probably better known to them than any other class of the Alumni Association.

One hundred and thirty-nine members of our class are subscribers to the TECHNOLOGY REVIEW. If you are not one of these, you are urged to subscribe at once, as this is the principal source of information concerning the Institute and your classmates.

It is very earnestly requested that every one who receives this letter take the trouble to fill out and return the Reply Sheet, which is enclosed, together with an addressed envelope for mailing it. It is absolutely necessary that we hear from every one promptly, so don't put it off. Answer at once. Sit down, take your fountain pen in hand, and DO IT NOW.

General Committee on Arrangements.

BOSTON, MASS., May 14, 1907.

N.B.—Extract from proposed Constitution: "Article III. Membership. All graduates of 1906 and all former students who have taken subjects with the Class of 1906 may be considered members." If you do not consider yourself a member of '06 as outlined above, will you be good enough to make note of same on reply sheet that we may correct our roll.

.....

(*Tear off here.*)

REPLY SHEET.

YES, I (*name*).....will be present at the First Annual '06 Reunion and Dinner at 5.45 P.M. on June 4, 1907, at the Hotel Plaza, Columbus Avenue, Boston, Mass.

No, I (*name*).....will not be present at the First Annual Reunion and Dinner of my class. Excuse:—

1. *Dead?*
2. *Sick?*
3. *Broke?* *
4. *Weary of life?*
5. .....*?*

* N.B.—The highest price per plate that I would feel able to pay is $....

My vote on the adoption of the Constitution is [YES NO]

I am in favor of the (*1st or 2d*).....of the suggested methods of disposing of the sum of $275 which remains in the class treasury.

My permanent address is.....

My mail address is.....

My occupation is.....

Additional information about self or any classmate.....

.....

I enclose herewith in the separate envelope addressed to Dean Burton the slip on which is marked my present yearly salary. This envelope is to be delivered unopened, together with the similar envelopes received from the other members of the class, to our classmate Dean Burton, who will carefully shuffle them and deliver them to a committee chosen by him to duly open them, tabulate the figures, and prepare a report to be read at the dinner.

I enclose herewith the sum of $.....as my contribution to the class treasury.

Date..... (*Signed*).....

The letter was mailed on schedule time, May 14. Acknowledgment is due to the following fellows who gathered at the Technology Club and helped the Committee mail the 761 letters in three hours: C. L. Anson, O. B. Blackwell, B. W. Kendall, J. A. Root, A. B. Sherman, R. W. Ware.

III. The Constitution proposed follows:—

THE CLASS OF 1906
MASSACHUSETTS INSTITUTE OF TECHNOLOGY
CONSTITUTION

ARTICLE I.

NAME.

This association shall be named the Class of 1906 of the Massachusetts Institute of Technology.

ARTICLE II.

OBJECT

The object of the Class of 1906 of the Massachusetts Institute of Technology shall be:—

1. To promote the common association of all of the members of the class.

2. To promote the welfare and interests of the Massachusetts Institute of Technology.

ARTICLE III.

MEMBERSHIP

All graduates of 1906 and all former students who have taken subjects with the Class of 1906 may be considered members.

ARTICLE IV.

GROUPING OF MEMBERSHIP

SECTION 1. The membership of the class shall be made up of geographical groups of members as follows:—

1. The Central Branch, consisting of those members residing in and about Boston.

2. The New York Branch, consisting of those members residing in and about New York City.

3. The Philadelphia Branch, consisting of those members residing in and about Philadelphia.

4. The Pittsburg Branch, consisting of those members residing in and about Pittsburg, Pa.

5. The Panama Branch, consisting of those members residing in the Canal Zone.

6. Or a Branch at any other centre where there are members to organize it.

SECT. 2. These and other branches, small or large, may be organized in the manner prescribed in this Constitution, for the purpose of aiding in attaining the objects of the class.

ARTICLE V.

OFFICERS

SECTION 1. The governing power of the association shall be vested in an executive council of five members, all of whom are residents of Boston or vicinity.

SECT. 2. The Council shall consist of a secretary, assistant secretary, and three directors. One of these directors shall be chosen chairman by the council.

SECT. 3. One member of the executive council shall be elected each year to serve three years; and the secretaries shall be elected every two years. These officers shall hold office until their successors shall have been duly installed.

SECT. 4. The chairman of executive council shall preside at all meetings of the class and of the executive council. In the absence of the chairman the presiding officer shall be chosen by a majority of those present.

SECT. 5. The executive council shall have authority to fill all vacancies in its own body.

SECT. 6. It shall be the duty of the executive council to conduct all affairs of the class.

SECT. 7. The council shall have charge of the finances of the class, except that it shall not have charge of the permanent fund.

ARTICLE VI.

SECRETARIES

The secretary shall keep a record of the proceedings of the class and the council, aided by the assistant secretary and the secretaries of the different branches. He shall have the custody

of the documents of the class. It shall be the duty of the secretary to keep a roll of the members of the class, and issue notices of all meetings of the class. The secretary shall receive his necessary funds from the executive council by appropriation. The establishment of representative correspondence for the unorganized groups, small or large, of members of the class, shall be arranged for by the secretary. He shall represent the class in the Association of Class Secretaries.

Article VII.

ELECTIONS

Section 1. Before April 1 of each year the executive council shall appoint a nominating committee of three who shall nominate at least two men for each office. Should ten or more members of the class wish to nominate a candidate for office, they may forward name of said candidate, indorsed in writing by at least ten, to the nominating committee, who shall place name of candidate upon ballot.

The secretary shall send each member of the class a ballot at least thirty days before election.

Sect. 2. Elections of executive council, permanent fund trustees, and secretary and assistant secretary, shall be by mail ballot, and must be in the hands of the council by the first of June of each year.

Article VIII.

CENTRAL BRANCH

It shall be the duty of the Central Branch:—

1. To endeavor, by all possible, laudable means, to keep the other distant members of the class informed about the progress of things at the Institute and among the class.

2. To have charge of all class dinners and all arrangements that properly pertain to local work.

3. To hold regular monthly meetings for the promotion of good fellowship and the transaction of business.

4. To assist the secretaries in editing the class notes for the Technology Review or any other publication.

Article IX.

ORGANIZATION OF BRANCHES OTHER THAN THE CENTRAL

Branches other than the Central Branch may be recognized after organization. They shall have a secretary and any other officers which are necessary for the proper execution of the work of the branch. It shall be the work of the branches other than the Central Branch to hold regular meetings at stated times, in convenient centres, co-operating with any of the local Technology Clubs to devise ways and means whereby they may acquire and intelligently consider information on matters concerning the progress of the work of the Institute.

Article X.

PERMANENT FUND

A fund shall be raised by the class, the amount of which shall be such that the annual interest yielded will be sufficient to defray the current expenses of the class. The object of this is to abolish in time class dues, and, when said fund is no longer necessary, the same shall be given to a scholarship fund of the Institute. This fund shall be in the hands of three trustees who shall hold office for three years, one elected every year. One of these trustees shall be a resident of Boston or vicinity, and their election is to take place at same time and in same manner as for the executive council.

ARTICLE XI.

MEETINGS

SECTION 1. The annual meeting of the class shall be held on Commencement Day in June; and there shall be held such additional meetings as the executive council shall appoint. Three weeks' notice of all meetings shall be sent every member of the class by the secretary.

SECT. 2. Special meetings of the class may be called at any time by the executive council, and shall be called by the secretary upon written request of ten members of the class.

SECT. 3. The executive council shall hold stated meetings on the second Monday in October and January and the last Monday in April.

ARTICLE XII.

ASSESSMENTS

Until the formation of the permanent fund, the annual interest of which shall be sufficient to defray the annual expenses, the annual assessments shall be one dollar for each member.

ARTICLE XIII.

RATIFICATION

SECTION 1. This Constitution, when ratified by two-thirds of those voting, shall take effect and shall supersede previous constitutions of this class.

SECT. 2. The polls shall close June 1, 1907.

ARTICLE XIV.

AMENDMENTS

This Constitution may be amended by two-thirds vote of those voting. Voting shall be carried on in same manner as in election of executive council.

IV. *Account of Reunion and Celebrations.*—An account of the Alumni Reception will be found in another part of the REVIEW.

The Spread was held with the rest of the classes at the Technology Club. The following invitation was sent out by the Association of Class Secretaries "Committee on Spread" to all the women who have been students at the Institute, residing in the vicinity of Boston:

You are cordially invited to attend the "spread" to be given by the Association of Class Secretaries at the Technology Club, 83 Newbury Street, on Tuesday, June 4, 1907, from three to six o'clock. . . .

It is the opinion of the committee that the women who have been students at the Institute should take an active interest in the celebrations of Commencement Week, and it is hoped that the annual "spread" may furnish the opportunity, which has been lacking in the past. Members of the Massachusetts Institute of Technology Women's Association will be present to welcome you and your friends.

In connection with this a special effort was made by the class of

'06 to have the ladies of the class which has been out one year serve at the Spread, and be most active in helping welcome the reunionists. Of our class the following women served: Mildred E. Blodgett, Anna M. Cedarholm, Jane B. Patten, Lillie C. Smith, Marion Hibbard Thanisch.

Miss Hunnewell, Miss Manning, Miss Wheeler, Miss Ruggles, Miss Hosmer, and others were heard from, but could not arrange to be present, chiefly on account of the rather short notice to prepare to come from a distance.

Every one was asked to register in the Alumni Association Register, and each member of '06 received one of the '06 reunion badges on which to write his name. About forty from '06 were present. The attendance from our class was very good, considering the lack of advertisement. The Spread gives the best opportunity of any for reunion during Commencement Week.

The class dinner was held at the Hotel Plaza, Columbus Avenue, Tuesday, Commencement Day, at 5.45 P.M. The toastmaster was Herbert A. Terrell. The guests were Mr. James P. Munroe, of the Corporation, and Bursar Rand. Dean Burton was unable to be present on account of sickness at home.

The count went round, and showed a total of seventy present. The following list shows those who expected to be present:—

M. J. Ahern, C. L. Anson, H. J. Ball, L. N. Bent, O. B. Blackwell, A. A. Blodgett, C. F. Brietzke, H. W. Brown, G. E. Burnap, G. W. Burpee, E. S. Campbell, E. S. Chase, M. A. Coe, R. S. Clarke, F. E. Dixon, E. C. Evans, W. F. Farley, H. L. Fletcher, H. V. Fletcher, H. A. Frame, H. A. Ginsberg, P. K. Griffin, H. B. Hallowell, C. E. Hamilton, C. E. Hanson, C. W. Hawkes, M. W. Hayward, A. T. Heywood, H. P. Hollnagel, C. M. Hutchins, H. O. C. Isenberg, A. H. Jannson, J. W. Johnson, C. L. Kasson, R. Kibbey, B. W. Kendall, A. L. Lampie, J. T. Lawton, Jr., D. A. Loomis, H. D. Loring, E. S. Manson, A. P. Mansfield, A. P. Mathesius, J. H. McKernan, C. A. Merriam, H. K. Merrow, W. N. Messenger, J. E. L. Monaghan, C. W. Mowry, S. A. Nash, U. J. Nicholas, J. F. Norton, H. L. Ober, R. R. Patch, F. S. Phelps, F. W. Poor, R. O. Reed, C. D. Richardson, R. W. Rose, W. L. Rowell, J. V.

Santry, A. B. Sherman, Jr., A. L. Sherman, W. C. Spencer, E. C. Stanton, E. C. Steinharter, A. W. Talbot, A. C. Taylor, H. A. Terrell, K. E. Terry, Jr., F. J. Van Hook, T. G. Webber, H. S. Whiting, M. G. Wight, S. C. Wolfe, D. M. Wood. Others were present.

Such a large number of fellows around one board made it seem like old times at our undergraduate dinners. Mr. Rand was the first guest to arrive. The fellows were, indeed, glad to see him again. He was with us during the first part of the evening, later having to be with the class of '93. In speaking of the Institute, Mr. Rand touched upon its continued labors in behalf of the students, and said his own work had become a work of love.

Mr. Munroe could not be with us during the early part of the dinner, as his time was divided up between three dinners, the chief of which was the celebration of the twenty-fifth anniversary of his class, '82. Meanwhile the reports on the replies to the various portions of the May letter were heard and business carried on.

Herbert S. Whiting gave a summary of the votes on the constitution and the disposition of the $275; also on the contributions.

The total number of replies received was 178. Of these, 155 voted in favor of the proposed constitution, 1 voted against it, and 22 gave no vote at all.

The vote on the disposition of the balance in the class treasury was as follows:—

Forty-seven favored the first suggestion: to make it "a permanent gift to Bursar Rand's Scholarship Fund for Needy Students." A hundred and twenty-five favored the second suggestion: "To form the nucleus of a fund to be raised by the class, the amount of which shall be such that the annual interest yielded will be sufficient to defray the current expenses of the class. The object of this is to abolish in time class dues, and, when said fund is no longer necessary for such use, the same shall be given to a scholarship fund of the Institute." One favored neither suggestion; and four did not vote either way.

The voluntary contributions received up to the time of reporting were as follows: ninety-four gave $1 each; one thoughtful one gave $1.10; two gave $2 each; one member sent $3; two sent $5 each;

and one sent $10, enclosing a note stating that the money was to be used, as was seen fit for the benefit of the class. The total amount subscribed was $122.10. Parenthetically, the secretaries wish to add here that contributions are still coming in, and up to the time this account goes to press the following additional amounts have been received: four sent $1 each; one sent $1.12; one sent $5. The grand total at this date is $132.22. This will probably be increased, as more replies are expected. The competition is still open.

For additional information on the replies the reader is referred to Section VIII. of these notes.

Joseph T. Lawton, Jr., made some explanatory remarks on the constitution, showing why it was thought best not to include a special article in the constitution, limiting the procedure for the first elections.

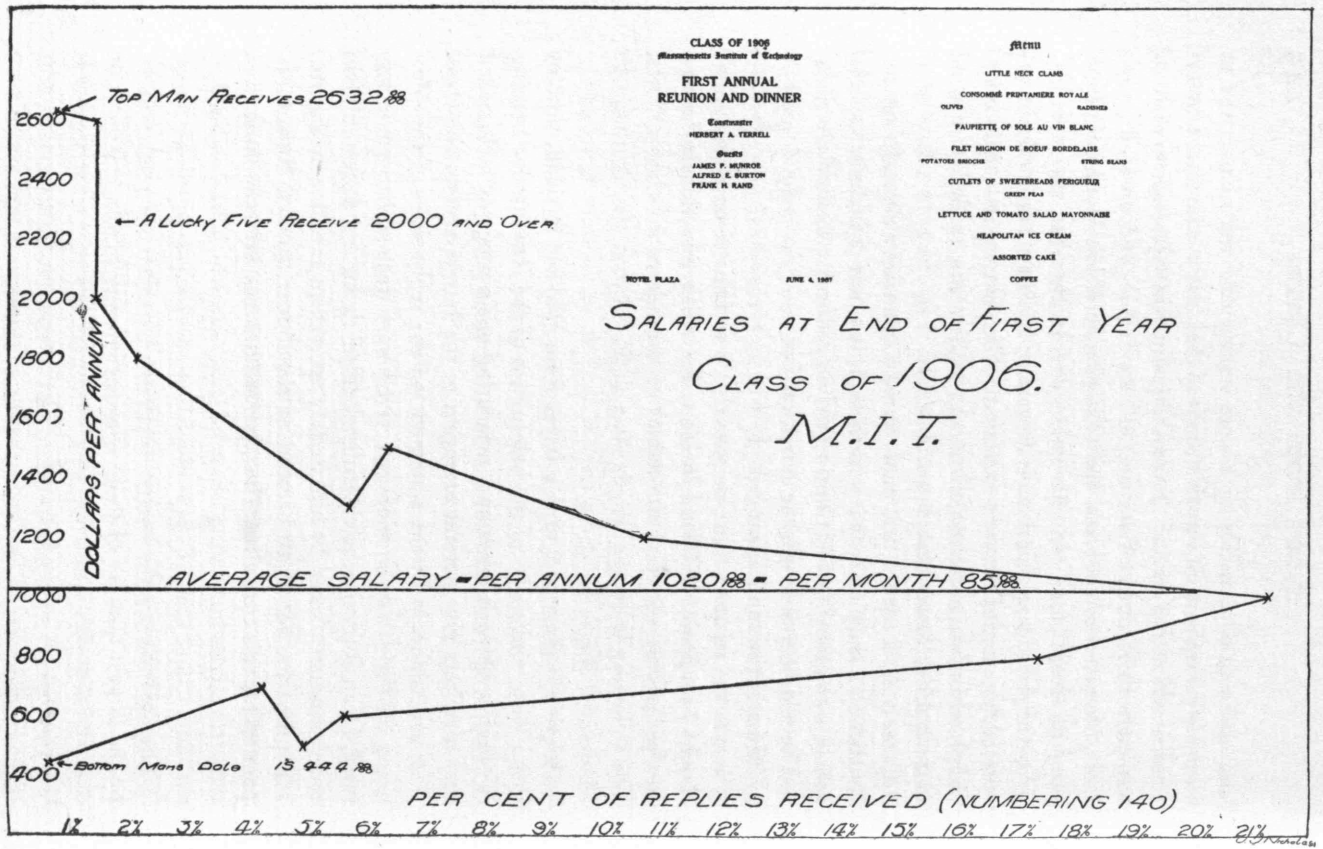
The Constitution was declared ratified, and the second method of utilizing the fund approved.

It was the sense of those present that a committee on nominations should be appointed by the toastmaster, with directions to report to the resident secretary the names of candidates for class officers. The following were appointed: Joseph T. Lawton, Jr., Anthony P. Mathesius, Ralph R. Patch.

Angelo T. Heywood read a letter from Wallace R. Hall, now in Porto Rico, and spoke of the helpfulness of the REVIEW for keeping in touch with each other and measuring one's progress. He asked that members give careful attention to the letters sent to the class.

In accordance with the statement on the reply sheet of the May letter, all the salary envelopes received were delivered to our classmate, Dean Burton, who carefully shuffled them, and delivered them to a committee chosen by him to duly open them, tabulate the figures, and prepare a report to be read at the dinner. Dean Burton appointed for this committee Utar James Nicholas, who prepared from the returns the interesting chart of large size which he exhibited at the dinner, and which is reproduced on another page in these notes.

The chart clearly shows that the particular salary per year received by the largest number of those who replied was $1,082. It is to be observed that this is not the lump average, but shows clearly what is the commonest salary received. The lowest amount received was


CLASS OF 1905
Massachusetts Institute of Technology
FIRST ANNUAL
REUNION AND DINNER
Toastmaster
HERBERT A. TERRELL
Guests
JAMES P. MUNROE
ALFRED E. BURTON
FRANK H. RAND
HOTEL PLAZA
JUNE 4, 1907
Menu
LITTLE NECK CLAMS
CONSOMMÉ PRINTANIERE ROYALE
OLIVES
RADISHES
PAUPIETTE OF SOLE AU VIN BLANC
FILET MIGNON DE BOEUF BORDELAISE
POTATOES BRIOCHE
STRING BEANS
CUTLETS OF SWEETBREADS PERIGUEUX
GREEN PEAS
LETTUCE AND TOMATO SALAD MAYONNAISE
NEAPOLITAN ICE CREAM
ASSORTED CAKE
COFFEE
SALARIES AT END OF FIRST YEAR
CLASS OF 1906.
M.I.T.
TOP MAN RECEIVES 2632.88
← A LUCKY FIVE RECEIVE 2000 AND OVER.
DOLLARS PER ANNUM
2600
2400
2200
2000
1800
1600
1400
1200
1000
800
600
400
AVERAGE SALARY = PER ANNUM 1020.88 = PER MONTH 85.88
← Bottom Mons Dole 13.44.88
PER CENT OF REPLIES RECEIVED (NUMBERING 140)
1% 2% 3% 4% 5% 6% 7% 8% 9% 10% 11% 12% 13% 14% 15% 16% 17% 18% 19% 20% 21%

$444, and at that time the highest one reported was $2,640. Quite a number of replies came in too late for tabulation; and very recently a batch which has been accumulating was opened, and revealed a new high-water mark of $3,000 per year. Hurrah for 1906!

Mr. Munroe came directly from his own class dinner, and brought with him the thoughts of those who, having been out in active life for twenty-five years, were now arrived at the time when they were more or less settled in their directions of endeavor, and could look back to see what had been the things worth while and of benefit to them in their associations since graduation from the Institute. He gave us the benefit of these thoughts, saying that the lifelong friendships formed were the things which, in times of failure, brought human sympathy and in times of success hearty congratulations, and helped one on to higher endeavor.

Cheers followed, and songs were sung. Henry D. Loring replied to a call for volunteer at the piano. After the "Stein Song," the "New Cheer Song," "Dear Old M. I. T." was given, and the fellows came in strong on the chorus which follows:—

"Fight on, boys, we are cheering for you,
For we want you to win to-day;
Do your best, we are all behind you,
And are wearing the red and gray.
Though the odds may be great against you,
Full of sturdy courage be;
And we'll raise a song of vict'ry
For dear old M. I. T."

With cheers the fellows adjourned in a body to the Pops.

V. *General Report on Finance of Reunion.*—The following summary will give an idea for what the class money has been used:—

Printing of letter, constitution, envelopes, and slips	$50.00
Envelopes and paper for same	11.00
Stenographer and clerical work	12.00
Telephone calls, postage, and miscellaneous expenses (about)	15.00
Total	$88.00

When these bills have been paid, about $40 of the contributed money will remain, to be promptly used for printing and sending out to all members of the class the report of the First Annual Reunion.

In printing the Constitution, an error was made in Article X. It read, "This fund shall be in the hands of three trustees who shall hold office for three years, one elected every two years," and should be corrected to read " . . . for three years, one elected every year."

VI. *The Report of the Committee on Nominations for Class Officers* is as follows, and is to be sent in ballot form to all members of the class:—

For Secretary . . . . . F. A. Benham (I.), of Boston.
A. T. Heywood (III.), of Boston.

For Assistant Secretary . . Harry W. Brown (VI.), of Roxbury.
U. J. Nicholas (VI.), of Roxbury.

For Directors on the Executive Council . . . . . R. E. Cranston (II.), of Providence, R.I.
J. N. McKernan (I.), of Boston.
R. R. Patch (I.), of Stoneham.
R. O. Reed (III.), of Malden.
G. C. Simpson (I.), of Malden.
H. A. Terrell (II.), of Newton.
F. J. Van Hook (I.), of Roxbury.
H. S. Whiting (VI.), of Roxbury.
Vote for three.

For Trustees . . . . . M. A. Coe, of Medford.
C. L. Anson, of Boston.
T. L. Hinckley, of Columbus, Ohio.
H. C. Henrici, of Sabetha, Kan.
H. W. Nabstedt, of Boston.
Vote for three. One must be resident of Boston.

Of the three men chosen as Directors on the Executive Council, the one receiving the highest number of votes shall hold office for three years, his term expiring June 1, 1910; the one receiving the second highest number of votes will hold office for two years, his term expiring June 1, 1909; the one receiving the third highest num-

ber of votes shall hold office for one year, his term expiring June 1, 1908.

The terms of the Secretary and Assistant Secretary elected at this time shall expire on June 1, 1909.

Of the three men chosen as permanent fund trustees, the one receiving the highest number of votes shall hold office for three years, his term expiring June 1, 1910; the one receiving the second highest number of votes shall hold office for two years, his term expiring June 1, 1909; and the one receiving the third highest number of votes shall hold office for one year, his term expiring June 1, 1908.

The polls shall close September 1.

JOSEPH T. LAWTON, Jr.,
RALPH R. PATCH,
ANTHONY P. MATHESIUS,
Committee on Nominations.

VII. *Concerning Other Reunions.*—At M. I. T. alumni dinner, Jan. 18, 1907, the following '06 members were present:—

Charles L. Anson, Thomas Gray Webber, Harry H. West, Sylvester C. Wolfe, Angelo T. Heywood.

The following reunions have been noted:—

An alumni dinner of Pittsburgers was held in the spring.

In April the following card was sent out to those of the class of 1906 then at the Institute:—

"POW-WOW"

To those of the Class of 1906 *now at the Institute:*

In response to numerous requests from the members of '06 now at the Institute that they meet together before the end of the school year, a committee has been appointed to arrange for a "pow-wow" at the Technology Club. Two dates are offered, Monday, April 29, and Thursday, May 2, preferably *the former*. The hour is 6.30 P.M. Price per plate, not over 85 cents. Please indicate which date you would suggest. Your reply should be mailed not later than Thursday night, April 25. Announcement of date will be made by post card to those who reply.

Very truly yours,

ANGELO T. HEYWOOD.

APRIL 22, 1907.

Twenty-eight men were present, and the courses were represented as follows:—

Course I. Van Hook, H. D. Loring, Shedd, Dorsey, Chidester, W. G. Waldo, Ranney.

Course II. Fuller, Wilkins, Turnbull.

Course III. Frame, Hallowell, Heywood.

Course IV. Moore.

Course V. Norton, Wilcox.

Course VI. Blackwell, R. S. Clarke, Manson, C. D. Richardson, A. B. Sherman, Jr., Whiting.

Course VIII. B. W. Kendall, Danash, Rowe.

Course XI. E. S. Chase.

Course XIII. R. L. Dyer.

VIII. *Personal Notes.*—The following personal notes and replies, *not alphabetically arranged*, received by the secretaries, give an idea of the strenuous work and good times which the class of '06 are enjoying: Robert H. Booth, who has been with the American Telephone and Telegraph Company, Philadelphia, has gone westward to take a position with the Republic Iron and Steel Co. in Moline, Ill. He has resigned from the office of secretary-treasurer of the Technology Club of Philadelphia. All matter for the club may, for the present, be sent to Percy E. Tillson, '06, at 3411 Walnut Street, Philadelphia.—An account of Clarence E. Carter's wedding, clipped from the Boston *Sunday Globe* of April 7, follows:—

READING, April 6.—Miss Alice Sanders Kidder, daughter of William Kidder, of 26 Lowell Street, was married this evening to Clarence Elmore Carter, son of Adelbert Carter, of 19 Grand Street, at the home of the groom's parents, by Rev. Frank S. Hunnewell, pastor of the Congregational church, the couple standing in a floral alcove. The wedding march was played by Miss Marion Flint, cousin of the groom. Miss Marjorie Ada McLeod, niece of the bride, and gowned in white muslin, was a dainty ring-bearer.

The bride was gowned in white batiste, and wore a veil caught up with orange blossoms. She carried bride roses. A reception, attended by seventy-five guests, followed, Mr. and Mrs. Carter being assisted in receiv-

ing by their parents. The ushers were Master Carl F. Wiechmann, of Reading, nephew of the bride, and the Masters Baker of Manchester-by-the Sea, nephews of the groom. The home decorations were in white and green.

To-morrow night Mr. and Mrs. Carter start for Schurtz, Nev., where the former is employed as a civil engineer on the Oregon Short Line Railroad. He is a graduate of the Reading High School and the M. I. T.

—"Edward L. Mayberry and Llewellyn A. Parker wish to announce that they have established an office for the practice of structural steel and reinforced concrete engineering under the firm name of Mayberry & Parker, with offices at 372–373 Pacific Electric Building, Los Angeles, Cal."—H. W. Beers, who has been assistant in the Civil Engineering Department, has taken a position with the Southern Ferro Concrete Co., Atlanta, Ga. He is going to help build a subway in Atlanta, and also other large reinforced concrete construction work in Georgia.—Atwood E. Rippey (III.) came east from San Diego to Boston early in the summer.—Stanley M. Udale broke both the Technology and New England Intercollegiate Athletic Association records in the 2-mile at the Worcester meet this spring, the time being 9 minutes, 52$\frac{4}{5}$ seconds at Worcester, Mass. E. H. Lorenz, '05, had previously held Tech's record at 10 minutes, 20$\frac{3}{5}$ seconds, while O. N. Bean, of Brown, had held the New England Intercollegiate Athletic Association record at 10 minutes, 3$\frac{3}{5}$ seconds. The American collegiate record is held by A. Grant, of Pennsylvania, at 9 minutes, 27 $\frac{4}{5}$ seconds.—The following was clipped from the Newton (Mass.) *Circuit* of April 20, 1907:—

Wallace R. Hall, of Winchester Street, Newton Highlands, a graduate of the Massachusetts Institute of Technology, class of 1906, has been called to Porto Rico to take charge of extensive engineering operations.

— C. A. Merriam (II.) is reported to be with a shoe manufacturing concern on Congress Street, Boston.—Wier Louis Rowell, who was with B. F. Sturtevant & Co., Hyde Park, is now a real estate dealer. Address, Swampscott, Mass.—The following concerning one of our classmates was clipped from the Boston *Herald* of April 12, 1907:—

Tired of the pleasures of society, Joseph, son of Professor Thomas Dwight of the Harvard Medical College, has become a monk.

He entered the Trappist Monastery of Our Lady of the Valley at Lonsdale, R.I., April 1.

Although but twenty-one years of age, young Dwight has given much reflection on the matter, and after a consultation with his spiritual director, the Rev. Thomas I. Gasson, S.J., president of Boston College, he announced his intention. His decision did not meet with any opposition from his parents.

His life at the monastery will be one of a recluse. Silence is mandatory among the Trappists, with the exception of the morning salutation, "Memento mori."

The Trappist's day is spent in tilling the soil or in other laborious work. At night he retires to his hard couch, arising at the stroke of midnight to spend three hours in prayer. One of the most notable features of the Trappist's life is that each day each monk must dig a part of the grave he is to occupy.

Young Dwight was formerly a student at Technology, but left the Institute before the completion of his course to enter the employ of Houghton, Mifflin Company with whom he remained a year. A severe illness compelled him to give up his position, and on his recovery he decided to devote his life to religion.

—Guy Ruggles (III.) came home on a month's vacation about the first of July.—The number of marriages and engagements announced is almost bewildering; and the secretaries have all they can do to approximately keep track of the happy festivities. The following list of marriages and engagements was received by wireless: A. E. Wells, R. H. Booth, Walter B. Clifford, H. C. Merriam, L. G. Christy, Stuart C. Coey, Charles LeBaron Casson, Dan Adams. —J. C. Kinnear was married Thursday, June 20, to Miss Bertha Harvey Clarke, of Peabody. They have gone to Goldfield, Nev., where Kinnear is to work. Guy Ruggles on his way east, through Salt Lake City, visited the Mormon Temple, and there on the visitors' book spied the names of " Mr. and Mrs. J. C. Kinnear, of Massachusetts."—On May 16, Michael J. Gibbons, Jr., wrote in part: "Have been enjoying all the hard work belonging to an unusually prosperous year. Only about twenty-eight more bachelor

days for me, and have no regrets on that score."—A. W. Talbot, '06, is reporter on the Providence *Journal*.—During Commencement week Robert Dean (VI.) was in town from Philadelphia.—C. J. Rich was on from New York at this time, and Knapp came up from Pittsburg.—Edmund S. Campbell (IV.) took his Master's degree in Architecture in June.—Colby Dill likewise received his in Industrial Chemistry.—R. T. C. Jackson received his Master's degree in Architecture in June. He has been troubled with a severe attack of malaria, and is now down in Maine regaining strength.—During the spring of '07 it was reported that W. H. Foster, who has been with the heavy artillery at Fort Warren, Mass., went to Kentucky to take the examination for an advanced appointment. He passed with very high standing, and then asked for fifteen days' leave of absence immediately after the examination. Several months have passed, and he has not appeared since.—Shirley P. Newton, who is with the Sherwin-Williams Paint Company, writes from Cleveland, Ohio: "Fred Moore, Cleveland, Ohio, was with '06 a couple of years ago. Haven't seen his name in the REVIEW. C. B. Morey, '05, of the Larkin Soap Company, Buffalo, N.Y., hasn't forgotten Company C. He is in a crack company of the 74th N. Y. N. G. They are going to the Jamestown 'Imposition' to 'drill for the ladies.'" Newton adds, "Don't forget to give us a report of the dinner."—Mark H. Place, who is with the Chicago, Milwaukee & St. Paul Railway, writes from Fallon, Mont: "Was made a resident engineer March 1, and have ten miles covered with teams and work. I can hardly leave to go to Boston in June."—R. B. Sarratea was heard from in May. Address, General Delivery, Clifton, Ariz.—One member writes, "I find that, while the four years as an undergraduate may be the 'happiest years of our lives,' the year following graduation may be a mighty close second."—Daniel Adams, married April 27 to Anna Rhodora Gibson, Wellesley Hills. Will reside in Methuen, Mass., after June 1.—Owedis M. Chuchian, with the Hudson Company of New York City; residence, 153 East 27th Street, New York City, N.Y.—Leavitt N. Bent left for Joplin, Mo., the first week in June, to take position as chemist in a dynamite works.—Charles F. Breitzke is in experimental work on

filtration, Bureau of Chief Engineer, Department Water Supply, Gas, and Electricity, City of New York. Since graduation his occupation has been as follows: June to October, 1906, temporary assistant engineer, New York Board of Water Supply; October to January, 1907, in charge of construction of Mt. Kisco reservoirs; January to April, with Hazen and Whipple, on statistical and experimental work on aëration of water; since the last part of April has been employed in experimental work on determining best method of filtering the present Croton supply, New York City.—George W. Burpee at present is resident engineer on construction of power house at East Bridgewater, and underground conduit system in Brockton, for the Edison Electric Illuminating Company of Brockton.—Louis L. Booth writes from Geneseo, N.Y.: "At present writing, am superintending the erection of some buildings. All my classmates seem to have had the sense to keep away from here."—Sidney T. Carr writes from Pittsburg, Pa.: "J. J. Cartagena, who was out here, has gone to his home in Porto Rico. The rest of the '06 crowd are still here."—Henry R. Carruth writes: "I am engaged. This may be information or ancient history, according to the person seeing it. The lady is Miss Letitia M. McManus, of Dorchester, Mass. The announcement appeared in the Boston papers late in October last."—Earl G. Christy writes: "Am coming East to find a partner. Girls are all married or going to be. Will be in Boston, July 10–24. This is first visit to the East in two years."—Robert Sidney Clark writes from 319 Howard Street, San Francisco, Cal.: "Am enjoying life as best I may, all by my 'wild lone,' and am incidentally lending my moral support to breaking the numerous strikes here. You call me a 'scab'? Well, perhaps, but then.—Edwin Frank writes: "C. S. Pierce, familiarly known as 'Chad,'—he of the C. S. Rice Benevolent Association—is stationed at Janesville, Wis., on the Chicago & Northwestern Railway, on second track work. The address is 302 Centre Street, Janesville, Wis."—George P. Guernsey, who has been assistant in the Civil Engineering Department at Tech, is now at Glendive, Mont., being junior Engineer, United States Reclamation Service, located on the "Lower Yellowstone Project."—Wallace R. Hall writes: "Yrizarry is on the

transmission line. Cartagena is coming here in a couple of months to install the electrical machinery."—C. E. Hovey writes: "There have been several of our classmates at the United States Naval Academy. Maxfield graduated, Kelly resigned, Clay died, Smith, W., will graduate in 1908."—H. S. Hubbell writes: "W. B. Clifford, '06, has left the Simonds Manufacturing Company, Fitchburg, Mass., and is now acting as assistant superintendent with the T. R. Almond Manufacturing Company, 83 Washington Street, Brooklyn, N.Y.—Robert Hursh writes: "Assistant to general manager and engineer of Empire Zinc Company in Republic of Mexico, in ore buying, mine examinations, and operation of Mexican mining properties of Empire Zinc Company of Denver and New York. Mexico for mine; suits me in every respect. Tommy Holmes at A. S. & R. Smelter, Aguascalientes, Al. Stephens at A. S. & R. Smelter, Valardena, Hank Mears at Copper Queen Mine, Bisbee, Arizona."—F. R. Ingalsbe has been instructor in geology at Lehigh University the past year, but has not yet decided to return on account of the small salary. After June 1, 1907, his mail address will be Ishpeming, Mich., care of Cleveland-Cliffs Iron Company.—A. H. Keleher writes from "Palisade Court," corner 139th Street and Broadway, New York City: "Intended being present at feed. Vacation comes June 1–15. Find it necessary to spend same in Washington, partly because of New England L. A. Convention. If you want more news of me, ask Coey. Make him tell 'watermelon story' at the dinner."—E. D. McCain writes from Winnipeg, Canada: "A stranger in a strange land. No classmate within 500 miles. Hope to return to God's country some day."—Richard V. McKay writes from care of Pennsylvania Steel Company, Lebanon, Pa.: "Am learning the steel business. Serving time in the various departments, getting lots of experience working in draughting room, handling gangs of 'Hunky' laborers, putting in 24, 30, 36 hour shifts, watching and doctoring our large blast furnace, which goes on the bum on an average of once in three weeks."—C. S. Peirce (I.), '06, is busy getting things in shape for contractors on some second track and yard work. He writes from Janesville, Wis., care of L. J. Putnam, assistant engineer, Chicago & Northwestern Railway:

"Can't send you any coin until pay-day, about June 3, as had a serious operation on head about four months ago. Am just over it, and at work again, so you can see that the spondulix aren't plentiful. Will send it near the first of June, so keep me on the roll."—Mark H. Place writes from Milton, Rock County, Wis., "Can find no classmate in this section of the State."—G. H. Ruggles writes from Great Falls, Mont., "I will be in Boston about July 1, on a month's vacation."—A. L. Stephens writes: "Tommy Holmes is in Aguascalientes, and is playing bear very fervently to a Mexican señorita. Watch developments."—William H. P. Wright writes from Gabriels, N.Y., "I have been very sick up here at the sanatorium since I was forced to leave old Tech in February, 1906; and am still in a critical condition."—Charles G. Loring writes, from care Perier et Cie., 5 Rue de Provence, Paris, France, "There are three of us here, Mann, Lebenbaum, and self, all IV., and all studying like hell; like hell we are."

IX. The following changes of address have been received since the April issue of the REVIEW:—

M. J. Ahern, Boston College, Boston, Mass.—C. L. Anson (XIII.), 127 Newbury Street, Boston, Mass.—J. I. Banash, Underwriter Laboratories, 382 Ohio Street, Chicago, Ill.—Ray Barber has returned from the West, and is going into his father's optical business. Both he and Mrs. Barber had malaria. Mrs. Barber is now in Adirondacks, convalescing.—Harold W. Beers is with the Southern Ferro Concrete Company, Atlanta, Ga.—Robert H. Booth (II.), Republic Iron and Steel Company, Moline, Ill., 702 5th Avenue.—Harry W. Brown (II.), draughtsman, Lockwood, Greene & Co., 93 Federal Street, Boston, Mass.—G. E. Burnap (IV.), 116 Harvard Street, Newtonville, Mass.—George W. Burpee (I.), engineer with Westinghouse, Church, Kerr & Co., 10 Bridge Street, New York, N.Y.—Robert S. Clark (XIII.), 319 Howard Street, San Francisco, Cal.—Walter B. Clifford (II.), assistant superintendent T. R. Almond Manufacturing Company, Brooklyn, N.Y.—R. E. Cranston, 815 Banigan Building, Providence, R.I.—William J. Deavitt (III.), mining engineer, Munro Iron Mining Company,

Iron River, Mich.—Theodore A. Dissel (II.) is doing telephone construction work for the Consolidated Car Heating Company, and is located at 197 Liberty Street, Newburg, N.Y.—Edward M. Eliot, East 950 Nora Avenue, Spokane, Wash.—Edward B. Evans, formerly of Malden, is engaged in structural work in Johnson City, Tenn.—G. R. Guernsey, Glendive, Mont.—Wallace R. Hall (I.) is in Porto Rico with the San Juan Light and Transit Company, San Juan, Porto Rico.—Carroll A. Farwell, engineering aid, care U.S. R. S., Buford, N.D.—Henry B. Hallowell, Boston & Montana Copper Company, Great Falls, Mont.—Alfred R. Heckman, Grasselli Chemical Company, 347 Marshall Street, Elizabeth, N.J.—George F. Hobson, 22 Pearson Street, Long Island City, N.Y., with Albert F. Bancroft (III.), '07.—H. O. C. Isenberg (II.), Proposition Department, Stone & Webster, 84 State Street, Boston, Mass. Residence, 31 Newbury Street, Boston.—R. D. Kelley, office E. M. W., Vandalia Station, Logansport, Ind.—James William Kidder (VI.), Holyoke, Mass.—Clarence E. Lasher (VI.), North Adams Gas Company, North Adams, Mass.—E. S. Manson (VI.), 1 Durham Street, Boston, Mass.—Joseph N. McKernan, draughtsman and transitman with New York, New Haven & Hartford Railroad, Room 444, South Station, Boston, Mass.—Miss Eleanor M.Manning, draughtsman, whose specialty is interior decoration, is at present at 287 South Street, Morristown, N.J., in charge of some alterations that are being made on a house there.—H. Mears went to Boisé, Ida., on a report, and is now in Portland, Ore.—Harry C. Merriam (V.) is with the A. V. Plant, Leadville, Col.—L. F. Mesmer, 158 North Main Street, Los Angeles, Cal.—A. Neale, care Spencer Kellogg Company, Buffalo, N.Y.—Sherley P. Newton (V.), assistant chemist, Sherwin-Williams Paint Company, Cleveland, Ohio.—Miss J. B. Patten (VII.), Carver Hill Farm, South Natick, Mass.—Henry R. Patterson (II.), in charge of mechanical testing department, Trenton Iron Company, Trenton, N.J.—J. H. Polhemus, Carthage, Mo.—Edward M. Read, Jr., 53 Irving Place, New York, N.Y.—Robert Ware Rose (XIII.), real estate dealer, 3 Orchard Circle, Clifton, Mass.—Charles Dana Richardson (VI.), electrical engineer with Underwriters' Laboratories (Boston office, Wire

Inspection Bureau).—J. A. Root (III.), Inde Gold Mining Company, Inde, Mex.—Arthur W. Talbot (VI.), reporter and special Sunday Auto writer, Providence Journal Company, Providence, R.I., to which place he moved in November, '06.—A. S. Thomas (II.), 111 Stevens Street, Lowell, Mass.—Stanley M. Udale, 11 Birch Grove, Ealing Common, London, Eng.—Varian, Morene, Ariz.—C. E. Warren, 109 South Spring Avenue, La Grange, Ill.—N. A. White, 310 North 6th Street, Camden, N.J.—Malcolm G. Wight (I.), transitman with W. W. Wight, C.E., Wellesley Hills, Mass.—Dana M. Wood (I.), hydrographic aid, United States Geological Survey, 6 Beacon Street, Boston, Mass.—Harold E. Young (VI.), care district manager, Southern Bell Telephone and Telegraph Company, Augusta, Ga.—The roll of the class is not yet complete. There is quite a list of lost, strayed, and stolen members who have not yet been located. Please help the secretaries find them.

X. The following members have been located by the secretaries since the last issue of the REVIEW:—

Morse B. Ashmore, electrical engineering department, Twin City Rapid Transit Company, Minneapolis, Minn.—J. H. Cady, Peabody & Stearns, 53 State Street, Boston, Mass.—H. C. Chapin (XI.), Columa, Mex.—L. J. T. Decary, architectural draughtsman, 382 Centre Street, Montreal, P.Q.—S. E. Gideon, M. I. T., Boston, Mass.—J. T. Gilmer, 210 West 72d Street, New York City, N.Y.—Robert B. Gregson, 160 Andover Street, Lowell, Mass.—J. Francis Haley, North American Lead Company, miners and smelters of lead, nickel, and cobalt; mines and works, Fredericton, Mo.—Jerome G. Harrison, 416 Stimson Building, Los Angeles, Cal.—E. Leander Higgins, 120 Exchange Street, Portland, Me.—Ralph Hayden (III.), West Anaconda Copper Company, Box 362, Anaconda, Mont.—Robert Howe (VI.), assistant in electrical department and distribution, Boston Consolidated Gas Company, Allston, Mass.—Miss Mary P. Hunnewell, Wellesley, Mass.—E. R. Hyde, Fore River Ship and Engine Company, Fore River, Mass.—Lovejoy (II.), New Haven, Conn.—Robert F. Luce, aid, Coast and Geodetic Survey, Washington, D.C. May 27 reported on United

States steamship "Bache," surveying on coast of Porto Rico.—J. S. McGregor, Livingston Hall, Colorado University, assistant under Professor Wilson.—C. A. Merriam (II.), 134 St. Botolph Street, Boston, Mass.—W. N. Messenger, 148 West Foster Street, Melrose, Mass.—Howard Leslie Obear (VI.), 107 Warren Avenue, Boston, Mass. In automobile business in Park Square, Boston.—Ralph O. Reed, 517 Franklin Street, Melrose Highlands, Mass. With Malden & Melrose Gaslight Company and Malden Electric Company.—Arthur T. Remick, 323 West 77th Street, New York, N.Y.—Ralph C. Sprague (XI.), with father in grain business, South Framingham, Mass.—Ralph G. Stebbins, 60 Congress Street, Boston, Mass.—Mrs. Marion Hibbard Thanisch, 151 Park Street, West Roxbury, Mass.—R. C. Thayer, Goldfield, Nev.—Harry H. West, Room 23, Journal Building, 268 Washington Street, Boston, Mass., contracting work, especially glazed tile, arches, and domes.—Malcolm G. Wight, Wellesley Hills, Mass.—A. M. Winslow, 216 Lincoln Street, Worcester, Mass.—Dana M. Wood, 6 Beacon Street, Boston, Mass.

XI. *On the Part of the Secretaries.*—It is up to the members of our class to make a point of hunting up the house or officers of any Technology Club they are near or pass, in order that they may know where is the Technology rendezvous. This is the proper thing to do, whether or not they expect to join the club. For members inter-club membership cards are approved by almost all, and help in obtaining the guest friendship privileges when one is travelling. Percy E. Tillson, 3411 Walnut Street, Philadelphia, writes on June 16 as follows:—

I was very glad to get your letter and hear of the good time at the reunion, even if I could not get up there myself. Terrell was with us Thursday night, and we all enjoyed his visit and his news of the "'Stute." If you hear of any more '06 men coming through Philly, I hope you will tell them to look us up, and also let us know that they are coming. We appreciated your thoughtfulness in letting us know that Terrell was coming. We have been very fortunate in seeing fellows on their way through town, and we hope that it will keep up. Do you know of any '07 men who are coming down here? As you suggested, it would not be a bad stunt for us to look them up. Robert Booth (II.), '06, who was secretary of the Tech Club of

Philadelphia, has gone to Moline, Ill., with the Republic Iron and Steel Company. I am afraid that is all the news that Philadelphia can send to you at present. Dean, Powell, and Taylor all want to be remembered to you.

One member of our class suggested that '06 have a special representative in each alumni association in the country to look out for our men who may pass by. In various parts of the country the fellows are coming together. Small colonies are just as helpful as large ones.

In a recent issue of THE TECHNOLOGY REVIEW an article entitled "Recruits" was published. The secretaries have noticed several instances of activity among our classmates in helping to bring into touch with the Institute such young people as are seeking the kind of education which the Institute aims to give. Let us see more of this good work.

The following clipping recently taken from the Boston *Evening Transcript* on the salaries of some of the Lawrence Scientific School graduates will be of interest in so far as it is possible to make a comparison of the figures with the returns shown on our salary chart:

HARVARD UNIVERSITY

What the Graduates of the Lawrence Scientific School are Doing

Professor H. L. Smith, '83, chairman of the division of mining and metallurgy, has been in correspondence with the graduates of the Lawrence Scientific School in mining and metallurgy with regard to the work in which they have been engaged and their earnings since graduation. Letters were sent to every man who had been at work a year.

From 1897, when the first man was graduated, to 1905, 38 men received the degree of S.B. in mining and metallurgy. In addition, five graduates of the college completed the work of the mining program, and are rated as graduates of the division. Deducting five men who have never gone into mining work, as well as three members of the class of 1905 who were engaged in graduate study during the year 1905–06, leaves 35 men who are employed in mining and metallurgy. Of these, information has already been received from 25. This information may be summarized in the following table: engaged in mining, 23; engaged in metallurgy, 1; engaged in teaching metallurgy, 1; superintendents of mines, 11. Average earnings first year after graduation, $878; average earnings of men who

have been out two years, $1,456; average earnings of men who have been out three years, $1,900; average present age, 28 years; average present earnings per annum, $2,387.

XII. *Letters.*—Robert Sidney Clark writes as follows:—

319 Howard Street,
San Francisco, Cal., May 15, 1907.

Dear Classmate,—As the year has rolled around, and it is getting to be nearly time for the first reunion of the greatest class that Tech ever let loose on an unprotected and unsuspecting world, I think it may be about time that I paused in my mad career, and gave an account of my wanderings. As some of the members of the class probably know, I entered the employ of the Sullivan Machinery Company in the latter part of last June, and with said company I have been ever since. During the first six months I was at the Claremont (N.H.) factory of the concern, at the end of which time I was detailed as a committee of one to uphold the dignity of '06, and incidentally help represent the company on the Pacific Coast.

I had a most delightful trip out here, taking about eight days on the road, stopping off at various points to visit friends. Spent a couple of days at Grand Rapids, Mich., where I called on Ed, otherwise known to his intimates as "Gloomy," Chandler, and he and I went over the old days, our thesis, and sundry subjects together. Friend Gloomy seemed to be in somewhat of a more cheerful mood than of old, and, needless to say, my visit with him was very pleasant and by all means too short. As it was, however, my company gave me a call for overstaying my furlough when I reached Chicago, whereupon I had to go into a lengthy explanation of my whereabouts, all of which ended amicably for all concerned.

After having done a rapid hike across country, and having been in the city of the Golden Gate for some time, eating mud in large cartloads from this "beautiful" city's "beautiful" streets, walking in the same mud up to my knees, more or less, riding on cars run by one of the crumbiest companies on the face of the green earth, I at last got out on the road, and began to enjoy life. Had a most delightful trip amongst the gold mines of Placer and Nevada Counties, where I had my first experience as a miner, running a rock drill in the bottom of a wet shaft, enjoying a veritable rainstorm underground.

Since then I have spent my time roaming through various parts of the State, my last trip being down through the San Joaquin Valley and up

through Mother Lode country. That was the finest trip I have had yet, as the country was at its best, it being not yet time for the hot days, when the thermometer stands at umpty degrees in the shade for weeks at a time. Thanks be that I timed my trip well.

I have hardly seen a familiar face since I came West. Ran across Harry Vonder Horst rather unexpectedly one day some months ago, and have seen him several times since, but aside from him I have not seen a soul I ever knew at the old school.

It makes me sad to think of all the good times the fellows will have at the reunion, but perhaps I may get with one or two others on that date, and try to make up for inability to be with the bunch. You may be sure that my thoughts will be with the boys on the evening of the Pop Concert, for I still cherish fond memories of the time we had on the same occasion last year.

I have been receiving the REVIEW regularly, and certainly hope I shall never have to be without it, as it is about the only means I have of keeping any tabs on the rest of the good old gang.

When the boys are gathered around the festive board, and services in the "chapel" have been duly and properly conducted, just let them pause a moment and give one passing thought to those who are forced to cut the exam. Be sure they would gladly be present, and conduct themselves as true Knights of the Hammer and Tongs and "Sons of the Engine Deck," but they are forced by grim circumstances to be elsewhere, and can only be present in the spirit. But, if they are there in the proper spirit, the spirit of Tech and the class of 1906, they will be doing their duty, it seems.

Here's to the banner Class of the banner School,
The Class that sure did tricks,
That in work or pleasure's bound to rule,—
Here's now to Nineteen-Six.

IN MEMORIAM

THOMAS LEO GILLIS.

MERRICK EUGENE VINTON, Jr., III.

NECROLOGY

GUY WARNER EASTMAN, '04

Guy Warner Eastman, '04, was instantly killed on May 17, 1907, by being struck by a train at the Back Bay Station in Boston. The funeral services were held at his home in Allston, Professors Goodwin, Wendell, and Noyes, and Mr. L. M. Emerson,' 04, acting as pall-bearers. He was interred at Norwich, Conn. His sad death was an inexpressible shock and a cause of deepest sorrow to his associates and students at the Institute and to his classmates.

He was the son of Major Frank F. Eastman, U.S.A., and of Susan Colby Eastman, and was born at Lawrence, Mass., on Oct. 7, 1881. He was educated in the schools of that city, and in those of Vancouver, Wash. He passed the examinations for admission to the Institute in 1899. Instead of entering immediately, he spent one year in the Philippine Islands, at Manila, where he was employed in the Quartermaster's Department. He entered the Institute in October, 1900, where he pursued the Course in Physics. He was prominent in the affairs of his class, being vice-president of it and a member of the editorial boards of the *Tech* and *Technique*. Shortly after his graduation in June, 1904, he accepted a position as assistant physicist in the Bureau of Standards at Washington. In December of that year he married Miss Charlotte Fuller, of Norwich, Conn. In October, 1905, he resigned his position at the Bureau, and returned to the Institute with the appointment of Research Associate in Physical Chemistry. During the year following he completed an investigation on the Conductivity of Aqueous Solutions at High Temperatures, which was assisted by the Carnegie Institution, and which is now being published by it. In October, 1906, he was appointed Instructor in Physics and also Austin Fellow of the Institute, under the arrangement that he devote one-half of his time to the instruction in general physics and the remainder to advanced work for the degree of

Doctor of Philosophy; and at the time of his death he had made good progress upon the thesis required for that degree.

He was a man of such clearness of mind, human sympathy, and interest in teaching that he made a most efficient teacher. Moreover, his devotion to science and aptitude for research work justified the prediction that he would become a successful investigator. His personality was, too, an inspiration to all those with whom he was associated. By his death the Institute therefore loses one of the most promising of the younger members of its staff.

A. A. Noyes, '86.

BOOK REVIEWS

'THE TECHNOLOGY ARCHITECTURAL RECORD," VOLUME I., NUMBER I

This latest publication of the Institute of Technology is to be issued quarterly by the M.I.T. Architectural Society, and is "devoted to the study of architecture and to the welfare of the Department of Architecture of the Massachusetts Institute of Technology." As stated in the announcement, this first number "includes the information given formerly in the circular of the Department of Architecture." In addition to this it devotes about sixteen pages to an account of the growth and work of the society, to illustrations of various designs which have received awards, and to data concerning the various competitions for the Rotch scholarship and other prizes. These, with a batch of alumni notes, make up a number interesting to all Institute men as well as to men engaged in the profession of architecture; and the typographical work is so admirable that the quarto pamphlet, bound in a beautiful shade of buff, is a delight to the eye and a credit to the management of the society as well as to the printer. The managing editor is Professor H. W. Gardner, and the Publication Committee is made up of Messrs. W. Soule, R. T. C. Jackson, and W. F. Dolke, Jr.

The REVIEW welcomes most cordially this addition to the publications of the Institute, and feels confident that the *Record* will be of great benefit, not only to the Architectural Department, but to the Institute as a whole.

"TECHNIQUE, 1908"

Technique, the scramble for the first copies of which is a recognized feature of Junior Week, is the usual handsome annual of about four hundred pages, with many illustrations, some of them crude, but most of them of a high order of merit.

This year's issue is dedicated to Mr. Frank H. Rand, the popular

Bursar of the Institute, and the frontispiece is a very excellent portrait of him. As usual, the fraternity emblems and lists of members occupy a prominent place, and these, together with the organization of the various Institute social activities and the athletic data, form a permanent record of considerable value.

The four class histories are amusing, the "Grinds" deal discreetly with the foibles of certain members of the instructing staff and more bluntly with the eccentricities of undergraduates, and in "Statistics" fact and fiction are, as usual, cleverly mingled.

While *Technique* is always of very high excellence as compared with other college annuals, this year's issue seems to show evidence of some haste in compilation.